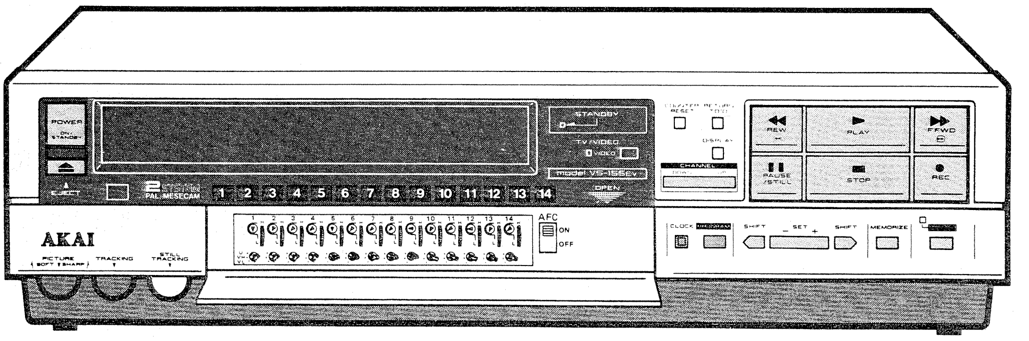
AKAI SERVICE MANUAL


POWER
ON/STANDBY
EJECT
STANDBY
TV/VIDEO
VIDEO
model VS-155EV
2 SYSTEM PAL/MESECAM
1 2 3 4 5 6 7 8 9 10 11 12 13 14
OPEN
AFC
ON
OFF
AKAI
PICTURE
SOFT SHARP
TRACKING
STILL TRACKING
COUNTER RESET
MEMORY
DISPLAY
CHANNEL
REW
PLAY
FFWD
PAUSE/STILL
STOP
REC
CLOCK
PROGRAM
SHIFT
SET
MEMORIZE

VIDEO CASSETTE RECORDER

MODEL VS-155EG/EK/ES /EV-M/EZ

ABBREVIATIONS LIST

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
AC	Alternating Current	LM STP	Loading Motor SToP
ACC	Auto Color Control	LP	Long Play
A/C	Audio and Control	LPF	Low Pass Filter
ADJ	ADJust(ment)	LSW	Loading SWitch
AFC	Auto Frequency Control	ME-SECAM	Middle East SECAM
AFT	Auto Fine Tuning	MI-COM	MIcro COMputer
AGC	Auto Gain Control	MM	Mono-stayble Multi
AH(P)	Audio Head (Play Back)	MRS	Motor ReverSe
AH(R)	Audio Head (Record)	NG	Noise Gate
AL	ALl	NON-LIN	NON-LINear
AL	ALways	N.T.S.C.	National Television System Committee
ALC	Auto Level Control	O MUTE	Output MUTE
A-SW·P	Audio-SWitching·Pulse	OSC	OSCillator
A·MUTE	Audio·MUTE	PAL	Phase Alternation Line
AUT/MAN	AUTO/MANual	PB	Play Back
ANT	ANTenna	P-COM	Phase-COMparator
APC	Automatic Phase Control	PDN	Power DowN
ASSY	ASSemblY	PG	Pulse Generator
BAL	BALance	PL, PLG	PLunger (PLunGer)
B/C	Buzz and Charactor	POS	POSition
B DOWN	Break DOWN	PRG	PRoGram
BGP	Burst Gate Pulse	P & S	Power supply & System control
BLK	BLacK or BLock	PU	Pick Up (head, pulse)
BM	Balanced Modulator	PWR	PoWeR
BPF	Band Pass Filter	Q	Quality factor
BS	Band Select	RC	Rotary Control
BS (SB)	Brake Supply (Supply Brake)	REC	RECord
BT (TB)	Brake Takeup (Takeup Brake)	REF	REFerence
BU	Back Up	REF-V	REFerence Vertical signal
B/W	Black and White	REG	REGulator
CCIR	Comité Consultatif International des Radio Communications	REV (REVW)	REView (REVieW)
		REW	REWind
CH (Ch.)	CHannel (Channel)	RFB	Radio Frequency Booster
CK	Color Killer	RM	Reel Motor
CLK	CLocK	RM PWR	Reel Motor PoWeR
CLP	CLiP	R·S SW	Record·Safety SWitch
CM	Capstan Motor	RST (RES)	ReSeT (RESet)
CN	CoNnector	RVS	ReVerSe
COMP	COMParator	S	Sensor, Shield
Comp	Comparison	SC	SimulCast
C or R	Cue or Review	S CLK	Serial CLocK
CR 1	Cue Review 1 (high)	S & A	Servo & Audio
CSW	Cassette SWitch	SECAM	Séquentiel à Memoire
CTL	ConTroL	SEP (SEPA)	SEParator (SEPArator)
CUE	CUE	SFP	Sync Front Pulse
CW	Carrier Wave	S & H	Sample and Hold
DAC	Digital to Analog Converter	SLP	Super Long Play
DC	Direct Current	SP	Standard Play
DEMOD	DEMODulator	SPD	SPeeD
DET	DETect (DETector)	SRP	Supply Reel Pulse
DL	Delay Line	SRV	SeRVo
DM	Drum Motor	SOW	Sync On Word
DOC	Drop Out Compensator	STBY	STandBY
D·P·E	Drum·Phase·Error	SW	SWitch
D·PG	Drum·Pulse Generator	SW'NG	SWitchiNG
D·TPZ	Drum·TraPeZoid	SWP	SWitching Pulse
EE	Electronic to Electronic	SYNC	SYNChronize
EF	Emitter Follower	T-AUDIO	Tuner AUDIO
EM	Eject Motor	TA-MUTE	Tuner Audio MUTE
EMPHA	EMPHAsis	TPZ (TRAPE)	TraPeZoid (TRAPEzoid)
ENVIN	ENVelope INput	TRK	TRacKing
ESW	Eject SWitch	TRP	Take up Reel Pulse
EQ	EQualizer	T/U	Take Up
FE	Full track Erase	TV	TeleVision
FF	Flip-Flop	UHF	Ultra High Frequency
FG	Frequency Generator	UNR	UNRegulated
Fig.	Figure	V	Vertical
FM	Frequency Modulation	VCO	Voltage Controlled Oscillator
Fo	resonance Frequency	VD	Vertical Drive
FREQ	FREQuency	VF	Voltage for Fine tuning
FSI	Field Start Inhibit	VHF	Very High Frequency
GND	GrouND	VHS	Video Home System
H	Horizontal	VID	VIDeo
HP	Horizontal (sync) Pulse	VIDEO-J	VIDEO Judge
HPF	High Pass Filter	VIF	Video Intermediate Frequency
HT	HeaTer	VJ	Video Judge
IC	Integrated Circuit	VM	Voltage for Memory
ID	IDentification	VOB	Video On Blank
IDL	IDLe (Voltage)	VOW	Video On Word
INS	INSert	VP	Vertical (sync) Pulse
INV	INVerter	VT	Voltage for Tuning
L·CTL	Lamp·ConTroL	WHT	WHiTe
LED	Light Emitting Diode	2H	2 Hour (SP)
LDI	LoaD Input	6H	6 Hour (SLP)
LM	Loading Motor		

AKAI
INTERACTIVE MONITOR SYSTEM
VHS
PLAY
STOP
PAUSE /STILL
REW
F.FWD
PROGRAM
TIMER

VIDEO CASSETTE RECORDER

MODEL VS-155 EG/EK/ES/EV-M/EZ

SECTION 1 SERVICE MANUAL 3
SECTION 2 PARTS LIST 23

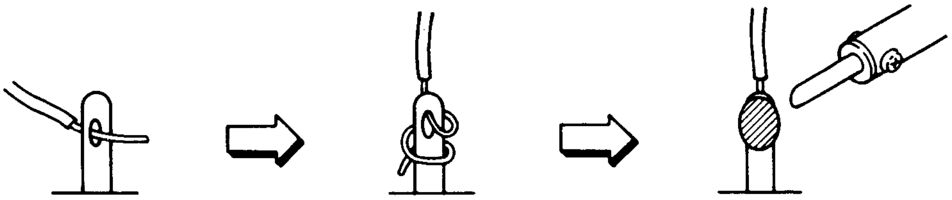
SAFETY INSTRUCTIONS

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 Mohms, but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for [C] or [A], specified insulation resistance should be more than 2.2 Mohms (ground terminals, microphone jacks, headphone jacks. line-in-out jacks etc.)

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ symbol parts are critical for safety.
   Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.

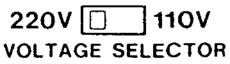


6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

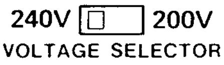
VOLTAGE CONVERSION

The model VS-155EG is not equipped with this facility. The operating voltages of these models are preset at the factory according to destination. However, the operating voltages of the models VS-155EG, VS-155EK, VS-155ES and VS-155EV-M can be set to 110V or 220V, 200V or 240V, 220V or 250V, 115V or 230V respectively as required.

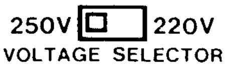
1. Disconnect the power cord.
2. Set the VOLTAGE SELECTOR located on the rear panel, with a screwdriver, until the correct voltage for your area is indicated.



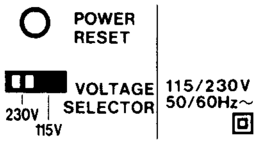
VS-155EG



VS-155EK



VS-155ES



VS-155EV-M

NOTE: POWER RESET BUTTON (VS-155EV-M ONLY)
If the video player is accidentaly connected to the wrong power supply, the internal circuit breaker will prevent damage from occurring to the video player. If the video player suddenly goes off, disconnect the power cord and change the position of the voltage selector on the rear panel. Then, reconnect the power cord and depress the POWER RESET button on the rear panel of the video player. The power indicator should light.

SECTION 1

SERVICE MANUAL

TABLE OF CONTENTS

I. SPECIFICATIONS 4

II. STANDARD TV BROADCASTING SYSTEMS IN THE WORLD (PAL, SECAM and NTSC) AND CORRESPONDING AKAI VCR MODEL NUMBERS 5

III. DISMANTLING OF UNIT 6

IV. CONTROLS 7

V. PRINCIPAL PARTS LOCATION 8

VI. MECHANICAL ADJUSTMENT 10

- 6-1. BEFORE THE ADJUSTMENT 10
- 6-2. BACK TENSION ADJUSTMENT 10
- 6-3. LOADING LEADER HEIGHT ADJUSTMENT 11
- 6-4. TAPE CURL AT TAKE-UP TAPE GUIDE ADJUSTMENT 12
- 6-5. AUDIO HEAD AZIMUTH ADJUSTMENT 12
- 6-6. RF ENVELOPE ADJUSTMENT 12
- 6-7. TAPE CURL AT SUPPLY TAPE GUIDE ADJUSTMENT 12
- 6-8. AUDIO HEAD HEIGHT ADJUSTMENT 13
- 6-9. CONTROL HEAD POSITION ADJUSTMENT 13
- 6-10. CUE/REVIEW ADJUSTMENT 13

VII. HEAD DRUM REPLACEMENT 14

- 7-1. REPLACEMENT PROCEDURE 14
- 7-2. AFTER REPLACEMENT 14

VIII. HOW TO MOUNT THE ROTARY PLATE 15

IX. HOW TO ASSEMBLE LOADING MECHANISM 15

X. ELECTRICAL ADJUSTMENT 16

- 10-1 POWER SUPPLY ADJUSTMENT 16
- 10-2. SERVO ADJUSTMENT 16
- 10-3. VIDEO ADJUSTMENT 17
- 10-4. IMS ADJUSTMENT 18
- 10-5. AUDIO ADJUSTMENT 19

XI. PC BOARD TITLES AND IDENTIFICATION NUMBERS 20

For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

I. SPECIFICATIONS

VS-155EG/EK/EK(Y1)/ES/EV-M/EZ

Format		VHS Standard
Video recording system		Rotary, slant azimuth two-head helical scan system
Rotary Heads		3 video heads
RF input	EG/EV-M	System B, G VHF: ch 2 to 12 UHF: ch 21 to 69
	EK/EK(Y1)	System I UHF: ch 21 to 69
	ES	System I VHF: ch A to J (Ireland), ch 4 to 13 (South Africa) UHF: ch 21 to 69
	EZ	System B, G VHF: ch 1 to 9 UHF: ch 21 to 69
RF output	EG	System G type modulation UHF: ch 30 to 39 adjustable (preset ch 36)
	EK/EK(Y1)/ES	System I type modulation UHF: ch 30 to 39 adjustable (preset ch 36)
	EV-M	System B type modulation VHF: ch 3, 4 switchable (preset ch 4)
	EZ	System B type modulation VHF: ch 2, 3 switchable (preset ch 3)
Recording (line input)		PAL, CCIR (System B,G,I)
Playback (line input)		PAL, CCIR (System B,G,I)
Video	Line input level	0.5 to 2.0Vp-p/75 ohms, unbalanced
	Line output level	1.0 Vp-p/75 ohms, unbalanced
	S/N ratio	More than 45 dB
	Horizontal resolution	More than 250 lines
Audio	Line input level	−8 dBm/50 kohms, unbalanced
	Line output level	−6 dBm/1 kohms, unbalanced
	S/N ratio	More than 40 dB
	Frequency response	70 to 10,000 Hz
Recording/Playback time		240 min. with E-240 cassette
Tape speed	SP Mode	23.39 mm/sec
Quick finder		Approx. 7 times normal speed (noise bars fixed)
FF, REW time		Approx. 5 min. with E-240 cassette
Timer	Programs	4 programs/2 week and sleep timer
	Clock reference	Quartz crystal
Display		TV screen (Tape counter, Timer etc.)
Power requirements	EG	110V/220V AC, 50 Hz/60 Hz
	EK/EK(Y1)	200V/240V AC, 50 Hz
	ES	220V/250V AC, 50 Hz
	EV-M	115/230V AC, 50/60Hz
	EZ	230V AC, 50Hz
Power consumption		28W
Operating temperature		5°C to 40°C (41°F to 104°F)
Dimensions		440 (W) x 108 (H) x 380 (D) mm (17.3 x 4.3 x 15.0 inches)
Weight		7.6 kg (16.7 lbs)

REMOTE CONTROL UNIT RC-V155

System	Infrared pulse position modulation system
Carrier frequency	38 kHz ± 0.2 kHz
Range	More than 5 meters
Directivity	±15 (at 4 meters)
Batteries	R6 (or AA, SUM-3) x 2 (3 volts)
Dimensions	43 (W) x 20 (H) x 161 (D) mm
Weight	60 g (without batteries)

* For improvement purposes, specifications and design are subject to change without notice.

II. STANDARD TV BROADCASTING SYSTEMS IN THE WORLD (PAL, SECAM and NTSC) AND CORRESPONDING AKAI VCR MODEL NUMBERS

Three different color TV systems – PAL, SECAM and NTSC – are now used in the world. As different models of the Akai VS series VCR's conform to different standards, please note the following:

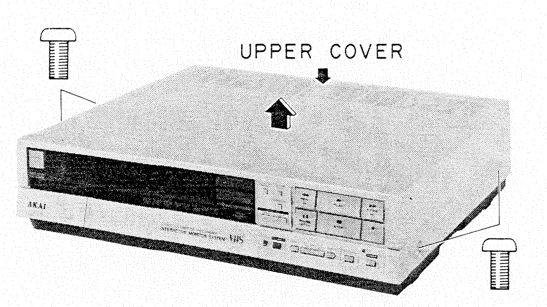
1. The Models for exclusive use with the PAL color system are as follows:
   PAL (B/G) ..... Models EA, EG, EO, EZ
   PAL (I) .... Models EK, ES
   PAL (D) .... Model ED
2. SECAM (system B/G) color programs in certain areas of the Middle East might be recorded with the Akai PAL (B/G) model, but there is no interchangeability of these recorded cassette tapes with other PAL-VHS recorders or SECAM-VHS recorders.
3. Please use the exclusive SECAM-VHS recorders in French SECAM (system L) broadcasting areas. (Models S, SEG)
4. The Models for exclusive use with the NTSC color system are as follows:
   Models: U, UM, J.
5. Model EV-M for PAL (B/G) and Middle East SECAM (B/G), and Model EGN for 4 system reception.
6. For camera recording, connect a video camera and camera adaptor built to the standard corresponding to your VCR.

III. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.

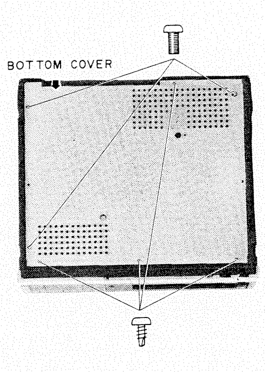
* Photographs employed in this paragraph are model VS-112EA.

1 Removal of Upper Cover


UPPER COVER

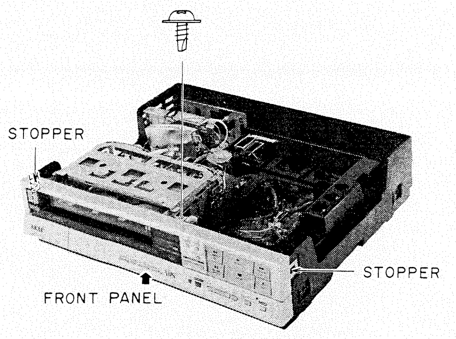
Remove the four screws

2 Removal of Bottom Cover


BOTTOM COVER

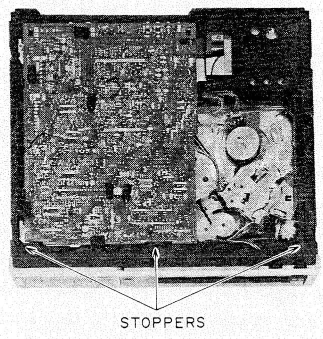
Remove the seven screws

3 Removal of Front Panel


STOPPER
STOPPER
FRONT PANEL

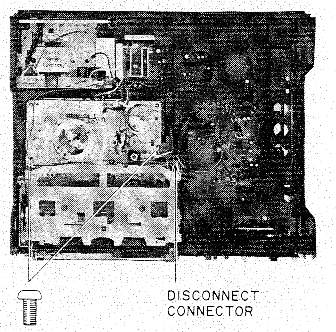
Remove the one screw and unfasten the stoppers.

4



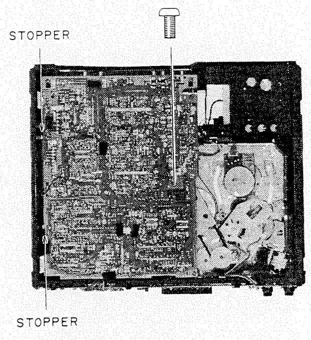
Unfasten the stoppers

5 Removal of Ejector Block


DISCONNECT
CONNECTOR

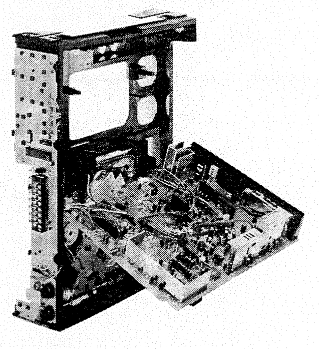
Remove the two screws and disconnect J308.

6 Remove of Main PCB


STOPPER
STOPPER

Remove the one screw and unfasten the two stoppers.

7



IV. CONTROLS

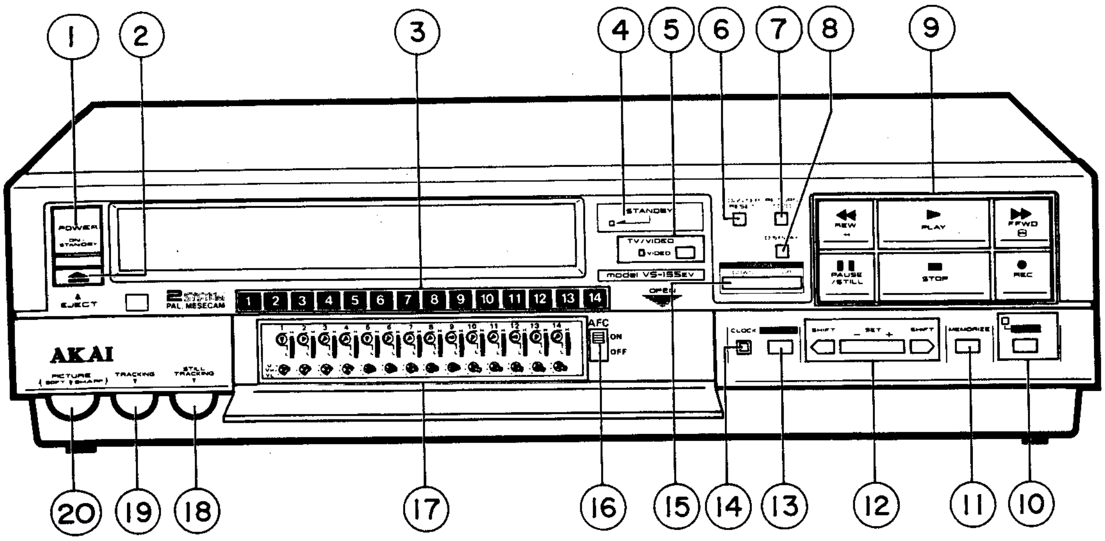

1
2
3
4
5
6
7
8
9
POWER
ON STANDBY
EJECT
PAL MESECAM
1 2 3 4 5 6 7 8 9 10 11 12 13 14
STANDBY
TV/VIDEO
VIDEO
model VS-155EV
REW
PLAY
FFWD
PAUSE /STILL
STOP
REC
OPEN
AKAI
PICTURE
SOFT SHARP
TRACKING
STILL TRACKING
AFC
ON
OFF
CLOCK
SHIFT
SET
MEMORIZE
20
19
18
17
16
15
14
13
12
11
10

Fig. 4-1 Front View

1. POWER BUTTON
2. EJECT BUTTON
3. CHANNEL INDICATORS
4. STANDBY INDICATOR
5. TV/VIDEO SELECTOR BUTTON and INDICATOR
6. COUNTER RESET BUTTON
7. RETURN TO "0" BUTTON
8. DISPLAY SELECT BUTTON
9. TAPE TRANSPORT BUTTONS
10. TIMER BUTTON and INDICATOR
11. MEMOLIZE BUTTON
12. SET and SHIFT BUTTONS
13. PROGRAM BUTTON
14. CLOCK BUTTON
15. CHANNEL SELECTOR
16. AFC (AUTOMATIC FREQUENCY CONTROL)
17. TUNING CONTROL
18. STILL TRACKING CONTROL
19. TRACKING CONTROL
20. SHARP/SOFT PICTURE CONTROL

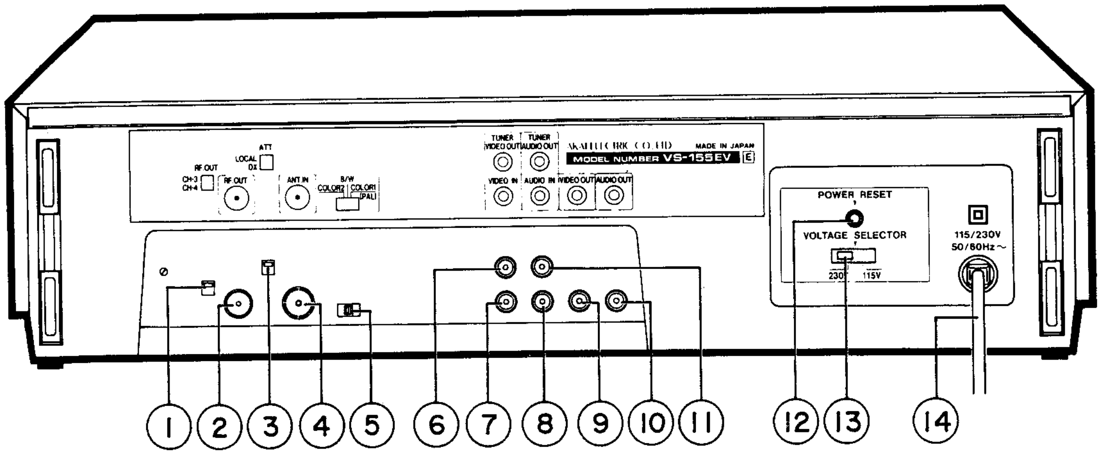

RF OUT
CH-3
CH-4
LOCAL
DX
ATT
RF OUT
ANT IN
B/W
COLOR2
COLOR1
(PAL)
TUNER VIDEO OUT
TUNER AUDIO OUT
VIDEO IN
AUDIO IN
VIDEO OUT
AUDIO OUT
AKAI ELECTRIC CO. LTD
MADE IN JAPAN
MODEL NUMBER VS-155EV
E
POWER RESET
VOLTAGE SELECTOR
230
115V
115/230V
50/60Hz~
1
2
3
4
5
6
7
8
9
10
11
12
13
14

Fig. 4-2 Rear View

1. RF OUT CHANNEL SELECTOR (EV-M, EZ only)
2. RF OUT CONNECTOR
3. LOCAL/DX ATTENUATOR
4. RF INPUT CONNECTOR
5. VIDEO MODE SELECTOR
6. TUNER VIDEO OUT JACK
7. VIDEO IN JACK
8. AUDIO IN JACK
9. VIDEO OUT JACK
10. AUDIO OUT JACK
11. TUNER AUDIO OUT JACK
12. POWER RESET BUTTON (VS-155EVM only)
13. VOLTAGE SELECTOR
14. AC POWER CORD

NOTE: Illustrated employed here are model VS-155EV-M.

V. PRINCIPAL PARTS LOCATION

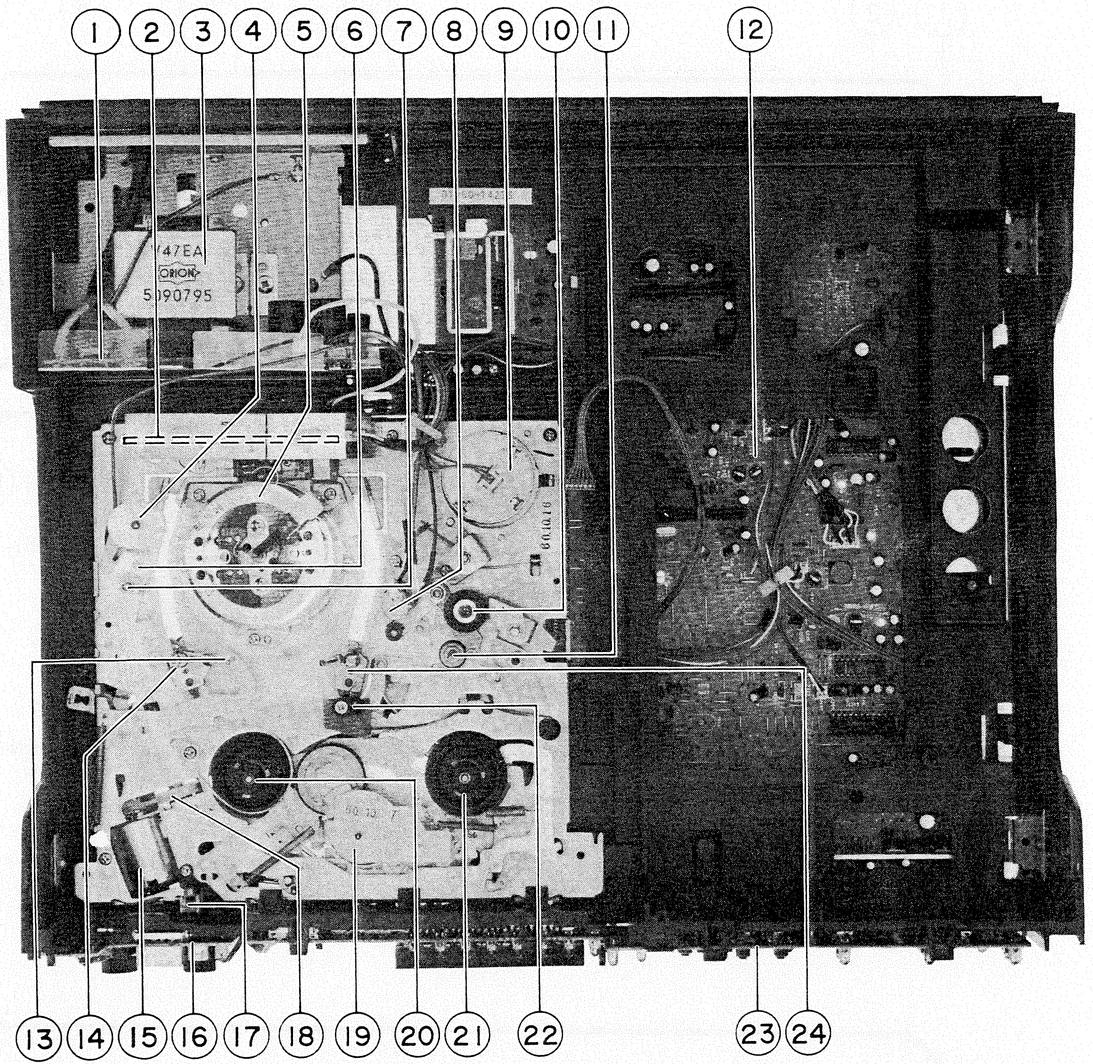


Fig. 5-1 Top View

(Photograph employed here is model VS-112E)

1. POWER PC BOARD (V1047C5030)
2. PRE AMP PC BOARD (V1047B5050)
3. POWER TRANSFORMER
4. IMPEDANCE ROLLER
5. HEAD DRUM BLOCK
6. FULL TRACK ERASE HEAD
7. SUPPLY TAPE GUIDE
8. AUDIO/CONTROL HEAD
9. CAPSTAN MOTOR (M902)
10. PINCH ROLLER
11. CAPSTAN SHAFT
12. MAIN PC BOARD (V1047A5010)
13. TENSION ARM
14. LOADING LEADER (L)
15. LOADING MOTOR (M903)
16. FUNCTION PC BOARD (V1047B5080)
17. REC SAFETY SWITCH
18. SYNCHRO BELT
19. TAKE UP GEAR BLOCK
20. SUPPLY REEL TABLE
21. TAKE UP REEL TABLE
22. SENSOR LED
23. OPERATION PC BOARD (V1047A5020)
24. LOADING LEADER (R)

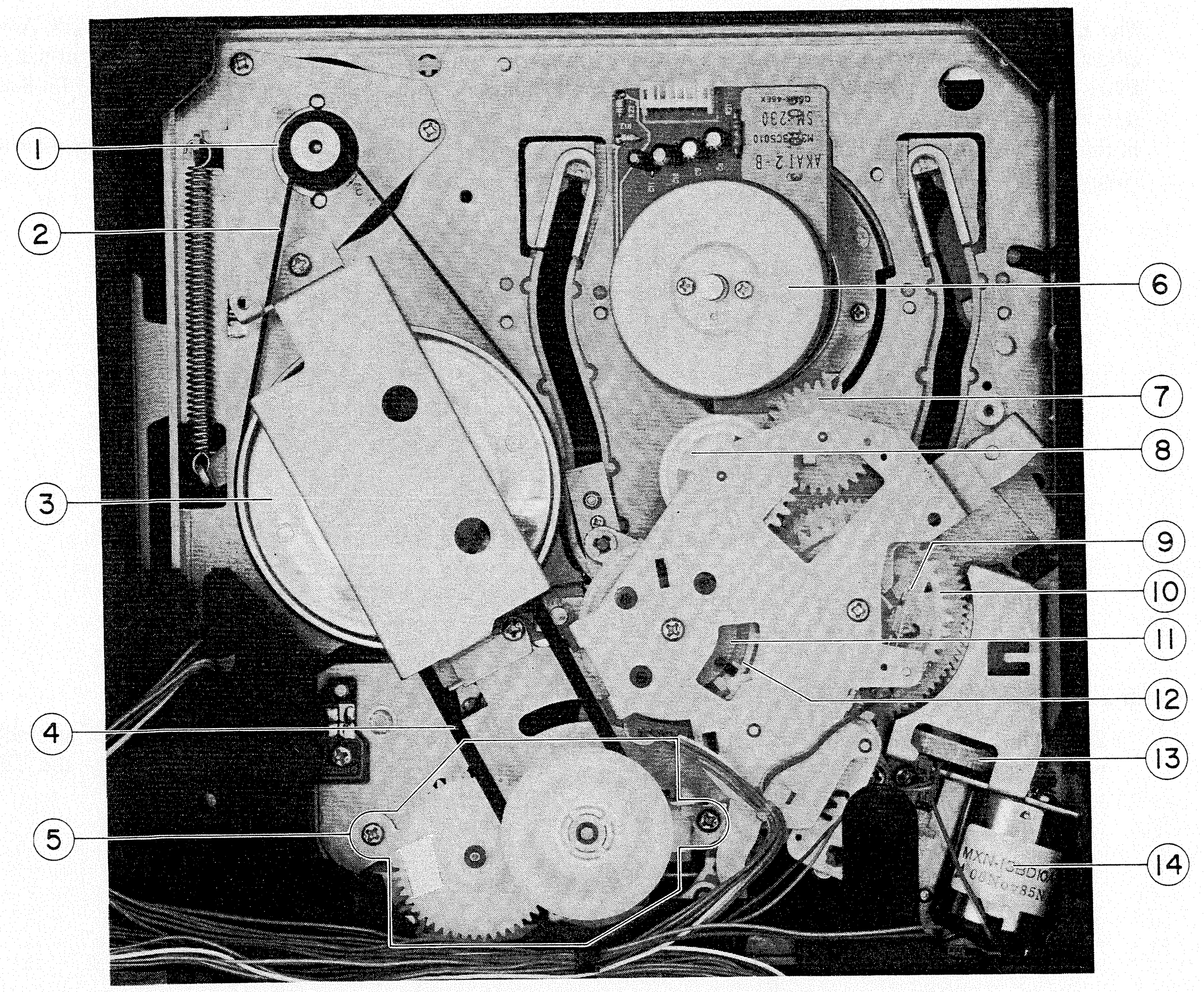


Fig. 5-2 Bottom View

1. CAPSTAN MOTOR (M902)
2. CAPSTAN BELT
3. CAPSTAN FLYWHEEL
4. IDLER BELT
5. TAKE-UP GEAR BLOCK
6. DRUM MOTOR BLOCK (M901)
7. SUPPLY LOADING GEAR
8. TAKE UP LOADING GEAR
9. EJECT SWITCH
10. EJECT CAM GEAR
11. ROTARY ENCORDER
12. MAIN CAM GEAR
13. SYNCHRO BELT
14. LOADING MOTOR (M903)

VI. MECHANICAL ADJUSTMENT

6-1. BEFORE THE ADJUSTMENT

The EJECTOR block has to be removed for mechanical adjustments. Consequently the J308 connected with P901 on EJECTOR block has to be disconnected, the unit does not function in this condition, to obtain the normal function without the EJECTOR block is as follows.

1) Disconnect J308 from P901 on the EJECTOR block.
2) Depress the POWER button on the front panel.
3) Connect a short wire pin 3 to pin 5 of J308 as shown Fig. 6-1 (Tape loaded mode).
4) After the adjustments, disconnect a short wire, then depress EJECT button.

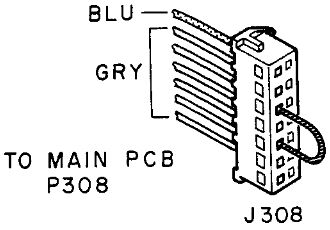

BLU
GRY
TO MAIN PCB
P308
J308

Fig. 6-1 J308 Connector

6-2. BACK TENSION ADJUSTMENT

1) Set the Back Tension Jig (AT-751181) and put some weight on the Back Tension Jig as a stabilizer.
2) Press the PLAY button, then check and adjust the back tension as 30 to 35 g-cm by the TENSION HOLDER position.

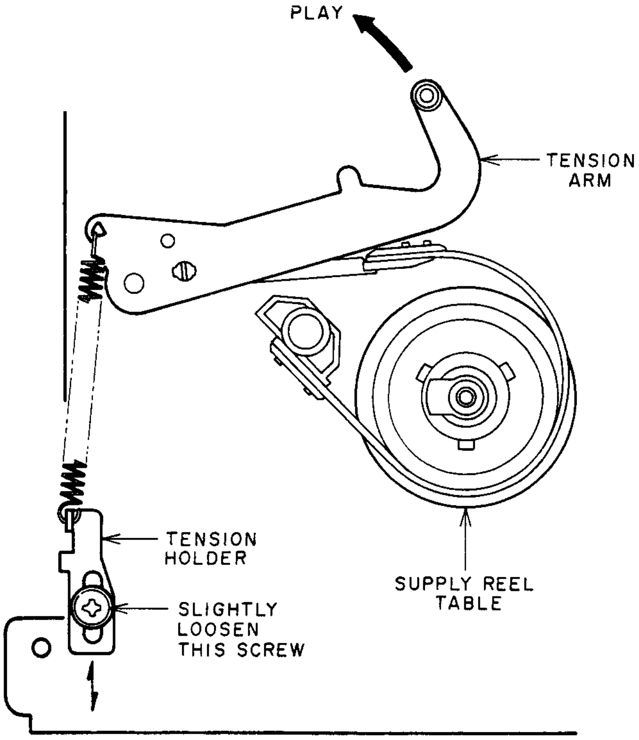

PLAY
TENSION
ARM
TENSION
HOLDER
SLIGHTLY
LOOSEN
THIS SCREW
SUPPLY REEL
TABLE

Fig. 6-2

6-3. LOADING LEADER HEIGHT ADJUSTMENT

1) Slightly loosen the set screw at the lower part of the LOADING LEADER so that the LOADING LEADER can be adjusted with reasonable tightness. Adjust the coarse height of the LOADING LEADER from the base mount as 0.6 to 0.8 mm.
2) Set the reference tape AT-750795 (TF-508RF) and depress the PLAY button.
3) Connect an oscilloscope to TP3 on the Pre-Amp. P.C Board (RF ENVELOPE), turn the LOADING LEADER height adjustment screw head to obtain the flat evelope as Fig. 6-4 ideal envelope.

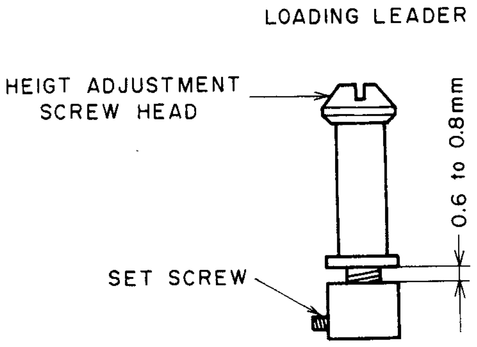

LOADING LEADER
HEIGT ADJUSTMENT SCREW HEAD
SET SCREW
0.6 to 0.8mm

Fig. 6-3

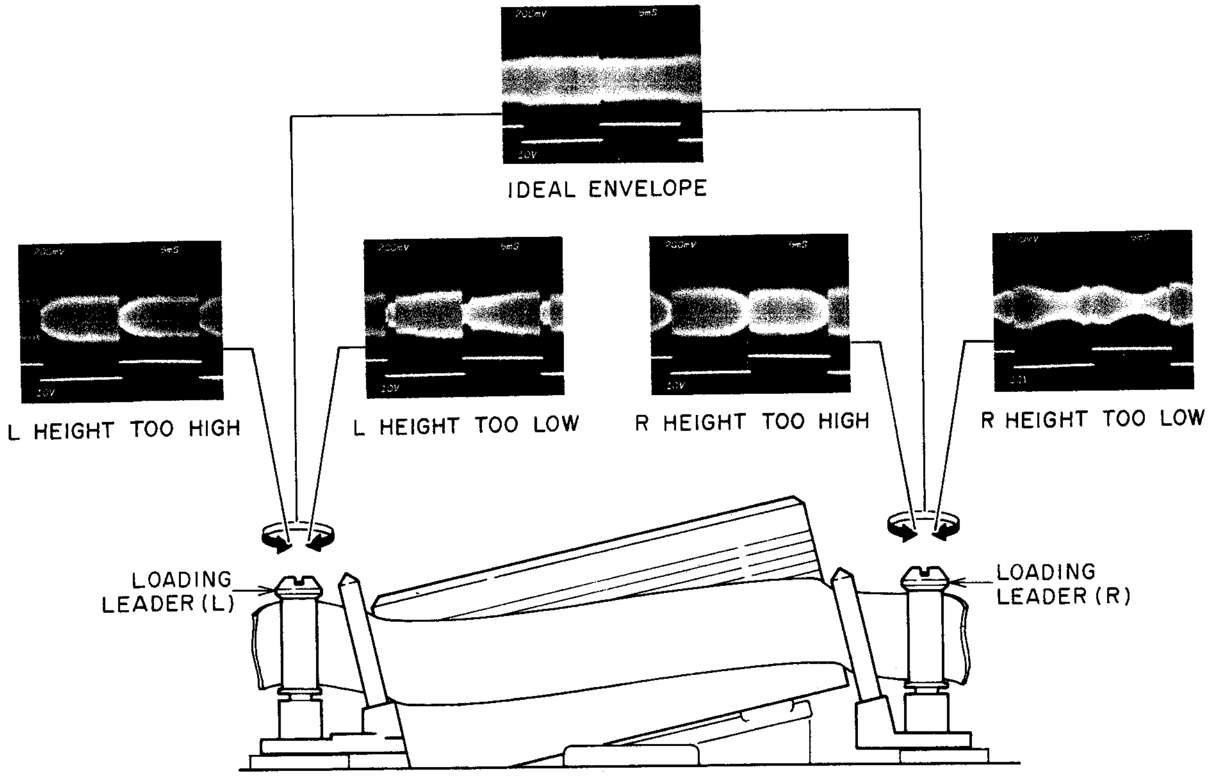

IDEAL ENVELOPE
L HEIGHT TOO HIGH
L HEIGHT TOO LOW
R HEIGHT TOO HIGH
R HEIGHT TOO LOW
LOADING LEADER (L)
LOADING LEADER (R)

Fig. 6-4

6-4. TAPE CURL AT TAKE-UP TAPE GUIDE ADJUSTMENT

Turn the screw ⓐ on the AC HEAD BLK so that the down edge of the tape touches the TAKE-UP TAPE GUIDE lower part without any curl or waving.

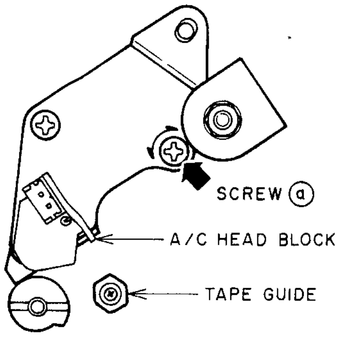
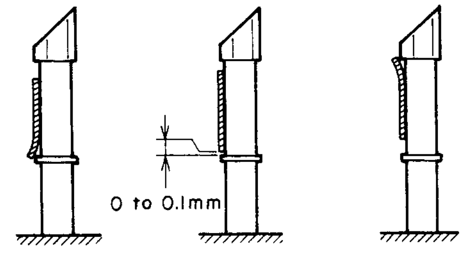

SCREW ⓐ
A/C HEAD BLOCK
TAPE GUIDE

Fig. 6-5



(a) NO GOOD (b) GOOD (c) NO GOOD

Fig. 6-6

6-5. AUDIO HEAD AZIMUTH ADJUSTMENT

1) Turn the NUT ⓐ for coarse AC BLOCK height adjustment as in Fig. 6-7, 8.

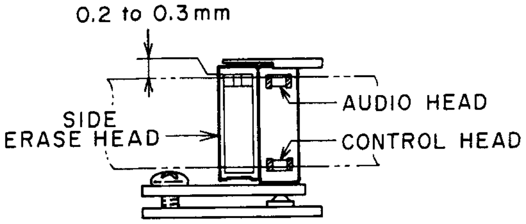

0.2 to 0.3mm
SIDE ERASE HEAD
AUDIO HEAD
CONTROL HEAD

Fig. 6-7

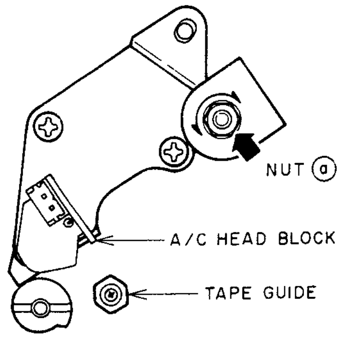

NUT ⓐ
A/C HEAD BLOCK
TAPE GUIDE

Fig. 6-8

2) Connect an oscilloscope or a AC voltmeter to the AUDIO LINE OUT.
3) Set the reference tape AT-750795 (TF-508RF) and depress the PLAY button.
4) Turn the screw ⓑ to obtain the maximum audio signal output.

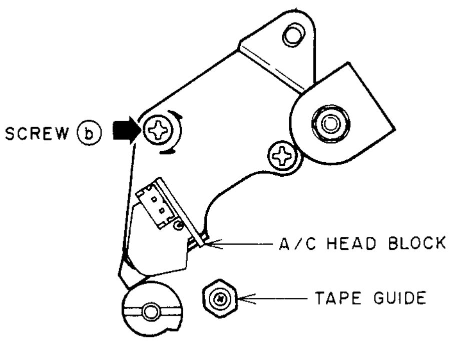

SCREW ⓑ
A/C HEAD BLOCK
TAPE GUIDE

Fig. 6-9

6-6. RF ENVELOPE ADJUSTMENT

1) Set the reference tape AT-750795 (TF-508RF) and depress the PLAY button.
2) Slightly turn the LOADING LEADER HEIGHT ADJUSTMENT SCREW HEAD (L) (R) to obtain the IDEAL ENVELOPE as shown in Fig. 6-4.

6-7. TAPE CURL AT SUPPLY TAPE GUIDE ADJUSTMENT

1) Check the tape curl at Supply Tape Guide slightly turn the NUT ⓐ if the tape curl exists.

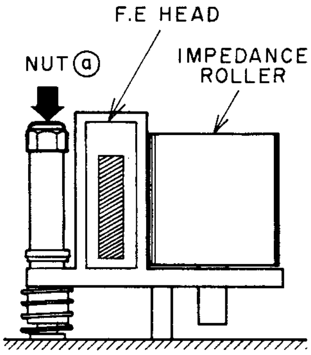

F.E HEAD
NUT ⓐ
IMPEDANCE ROLLER

Fig. 6-10

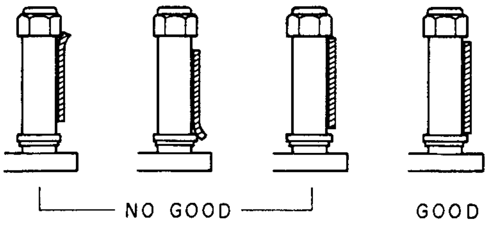

NO GOOD
GOOD

Fig. 6-11

6-8. AUDIO HEAD HEIGHT ADJUSTMENT

1) Connect an oscilloscope or a AC Voltmeter to the LINE AUDIO OUT.
2) Set the reference tape AT-750795 (TF-508RF) and depress the PLAY button.
3) Slightly turn the NUT ⓐ shown in Fig. 6-8 to obtain the maximum audio output.

6-9. CONTROL HEAD POSITION ADJUSTMENT

1) Connect an oscilloscope to the TP3 on the Pre-Amp. P.C Board (RF ENVELOPE).
2) Set the reference tape AT-750795 (TF-508RF) and depress the PLAY button.
3) Set the Tracking Control Volume to center click position.
4) Adjust Mechanical Tracking Adjustment Screw ⓐ to obtain the maximum RF ENVELOPE.

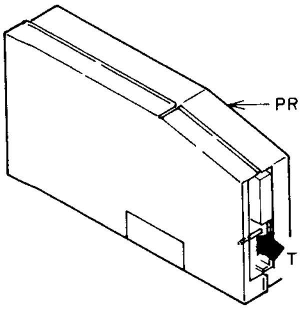


Fig. 6-12

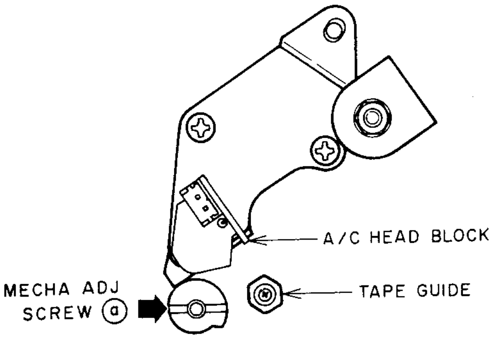

A/C HEAD BLOCK
MECHA ADJ SCREW ⓐ
TAPE GUIDE

Fig. 6-13

6-10. CUE/REVIEW ADJUSTMENT

1) Set a E-180 tape, press the PLAY and the F.FWD button (CUE mode).
2) Turn the CUE/REVIEW GUIDE height adjustment Nut ⓒ so that the wrinkle between the PINCH ROLLER and the CUE/REVIEW GUIDE are not existed.
3) Depress the REV button (REVIEW mode) confirm the curl at the tape down edge is not existed at the TAPE GUIDE as shown in Fig. 6-6.
(Fig. 6-6 (c) is not acceptable, but Fig. 6-6 (b) is acceptable)

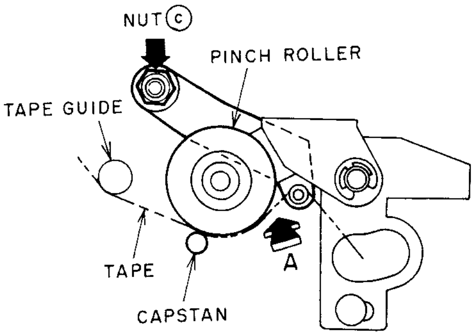

NUT ⓒ
PINCH ROLLER
TAPE GUIDE
TAPE
A
CAPSTAN

Fig. 6-14

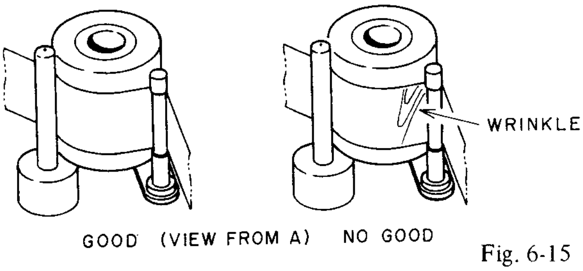

WRINKLE
GOOD
(VIEW FROM A)
NO GOOD

Fig. 6-15

After the adjustments, tighten the LOADING LEADER set screw.

VII. HEAD DRUM REPLACEMENT

7-1. REPLACEMENT PROCEDURE

1) Remove the Drum Eath Brush.
2) Unsolder the six wires from the Rotary Trans, BLUE and BROWN for CH1, BLUE and RED for CH2, WHITE and YELLOW for Trick Play.
3) Remove the Upper Drum Fixing Screw.
4) Install the Upper Drum. (Head Drum)
5) Tighten the Upper Drum Fixing Screws.
6) Resolder the six wires from the Rotarv trans.

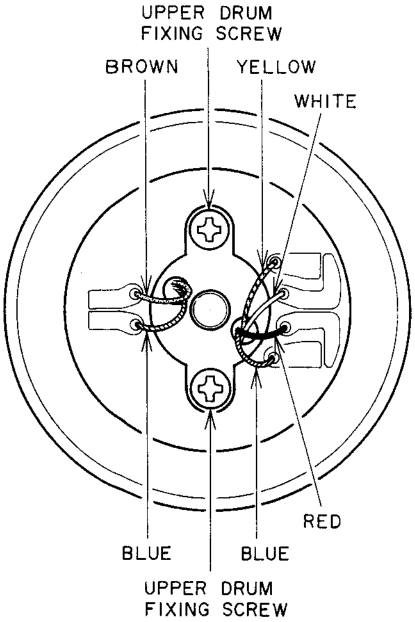

UPPER DRUM FIXING SCREW
BROWN
YELLOW
WHITE
RED
BLUE
BLUE
UPPER DRUM FIXING SCREW

Fig. 7-1

NOTE: Height precisior is required for the proper performance, and the head tips are fragile, so the bollowing points should be noted when replacing the upper drum block.

(a) Before fixing, clean both surfaces where the upper drum and the rotary transformer part meet, with pure alcohol.
(b) When installation of upper drum, if it does not go on to the shaft easily, clean the hole in the upper drum with pure alcohol and put a little oil on the shaft.
(c) Make sure that the upper drum fixing screw holes on the rotary transformer part and the upper drum fixing screw penetration holes match exactly before inserting the fixing screws.
(d) Tighten the two upper drum fixing screws alternately and gradually. Tighten them at 6 kg-cm torque.
(e) Do not loosen the set screw on the collar preload.

7-2. AFTER REPLACEMENT

After replacement, the following adjustments and confirmations are necessary for the proper performance.

1) Tracking preset adjustment. (Servo adjustment Step 1)
2) PB switching point adjustment. (Servo adjustment Step 2)
3) REC current adjustment. (Video adjustment)

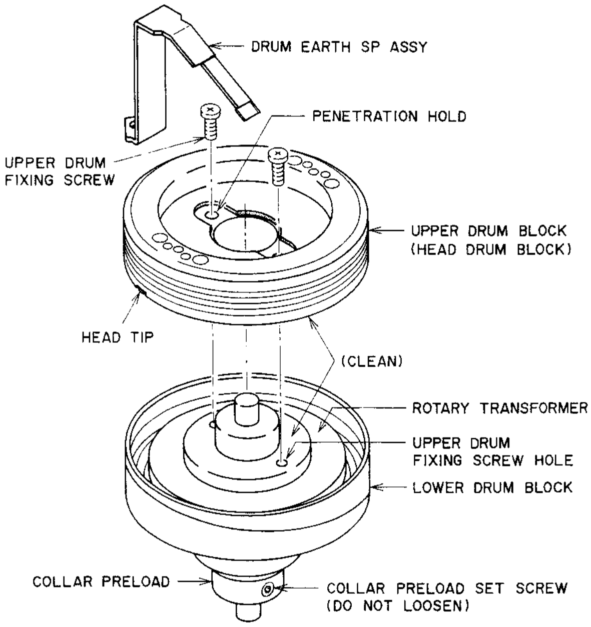

DRUM EARTH SP ASSY
PENETRATION HOLD
UPPER DRUM FIXING SCREW
UPPER DRUM BLOCK (HEAD DRUM BLOCK)
HEAD TIP
(CLEAN)
ROTARY TRANSFORMER
UPPER DRUM FIXING SCREW HOLE
LOWER DRUM BLOCK
COLLAR PRELOAD
COLLAR PRELOAD SET SCREW (DO NOT LOOSEN)

Fig. 7-2

VIII. HOW TO MOUNT THE ROTARY PLATE

When mounting the rotary plate on the drum motor, be sure to align the mark (Small round hole) on the rotary plate (a) with the collar preload set screw (d) on the collar preload (c) as illustrated above.

NOTE: Do not attempt to remove the collar preload (c) on the head assy. If removed, a special jig is needed for reinstallation, which almost always requires replacement of the drum assy.

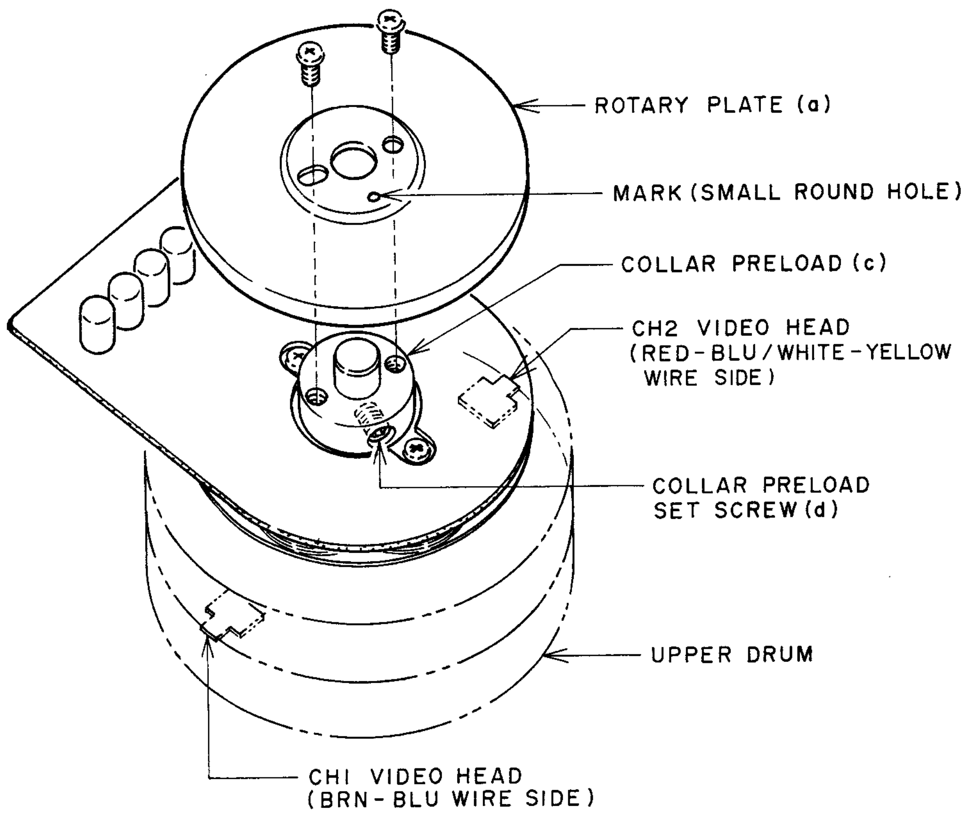

ROTARY PLATE (a)
MARK (SMALL ROUND HOLE)
COLLAR PRELOAD (c)
CH2 VIDEO HEAD (RED-BLU/WHITE-YELLOW WIRE SIDE)
COLLAR PRELOAD SET SCREW (d)
UPPER DRUM
CHI VIDEO HEAD (BRN-BLU WIRE SIDE)

Fig. 8-1 How to Mount the Rotary Plate

IX. HOW TO ASSEMBLE LOADING MECHANISM

Some of the VS-155E have been manufactured with VS-112E type mechanism. Only VS-155E mechanism is explained here. For VS-112E type mechanism, refer to VS-112E Service Manual.

1) With the unit unloaded, attach Gear Loading (S) BLK and Gear Loading (T) BLK to Mecha chassis so that align the mark.

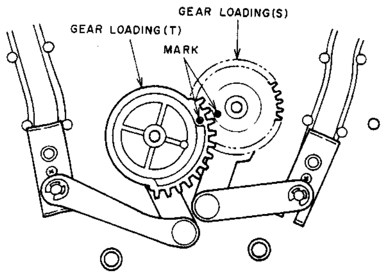

GEAR LOADING(S)
GEAR LOADING(T)
MARK

Fig. 9-1

2) Attach Gear Cam Eject to Mecha chassis so that align the marks.

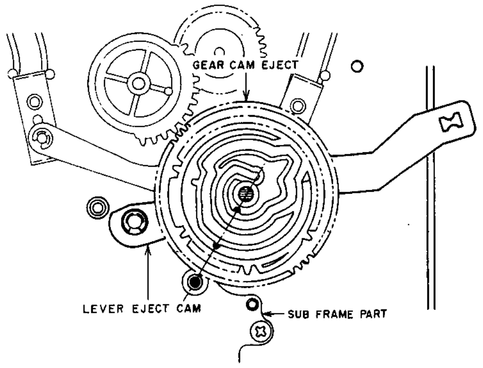

GEAR CAM EJECT
LEVER EJECT CAM
SUB FRAME PART

Fig. 9-2

3) Attach Gear Cam Main to Mecha chassis so that Pin Ⓐ of Lever P Cam and Pin Ⓑ of Lever Cam Slide mate oval hole of Gear Cam Main.

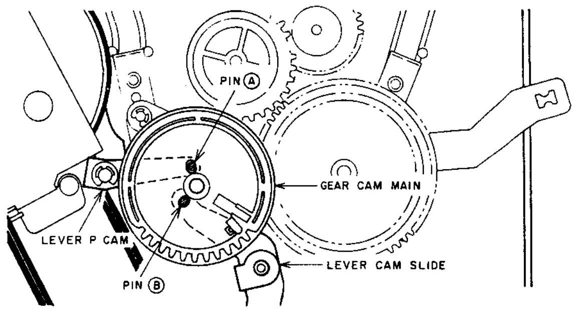

PIN Ⓐ
GEAR CAM MAIN
LEVER P CAM
LEVER CAM SLIDE
PIN Ⓑ

Fig. 9-3

4) Attach Lever Cam Tension to Mecha chassis so that Pin Ⓐ goes into valley of Gear Cam Eject.

5) Attach Lever Cam F/R to Mecha chassis so that Pin Ⓑ goes into valley of Gear Cam Eject. and Pin Ⓒ of Plate F/R Slide (2) Part into hole of lever Cam F/R.

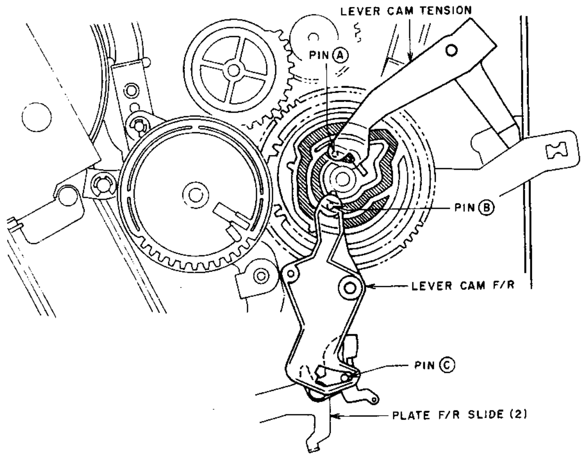

LEVER CAM TENSION
PIN Ⓐ
PIN Ⓑ
LEVER CAM F/R
PIN Ⓒ
PLATE F/R SLIDE (2)

Fig. 9-4

6) Attach Arm Set Free onto Lever Cam Slide.

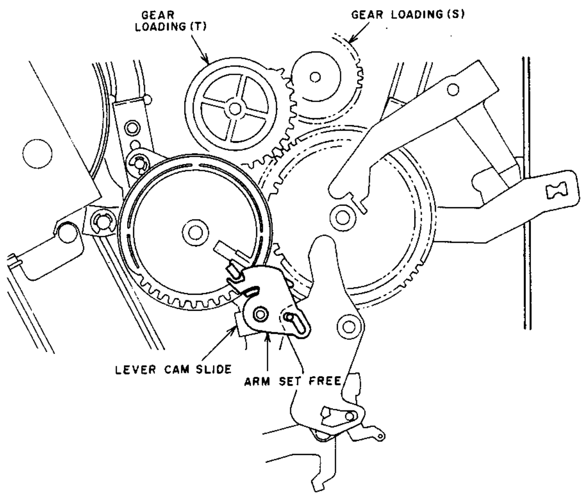

GEAR LOADING (T)
GEAR LOADING (S)
LEVER CAM SLIDE
ARM SET FREE

Fig. 9-5

7) Attach Mode SW BLK to Mecha chassis so that the latch of Rotary Encoder goes into slit Ⓐ of Gear Cam Main and tighten with screw Ⓑ.

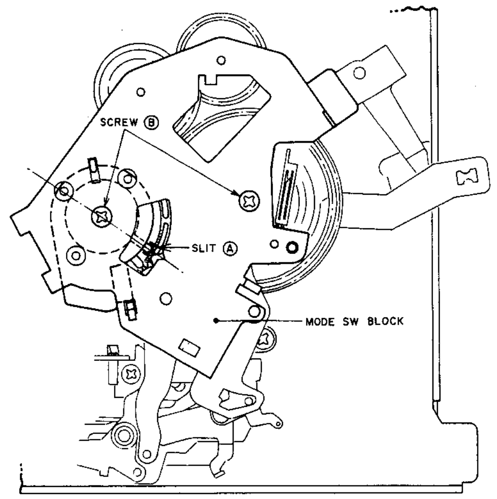

SCREW Ⓑ
SLIT Ⓐ
MODE SW BLOCK

Fig. 9-6

8) Mount Loading Motor BLK and tighten with screw Ⓐ

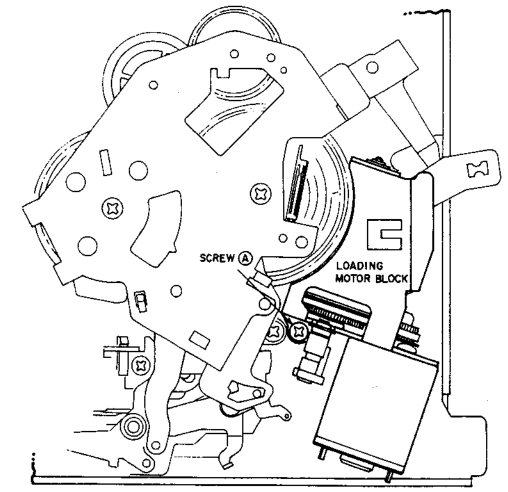

SCREW Ⓐ
LOADING MOTOR BLOCK

Fig. 9-7

X. ELECTRICAL ADJUSTMENT

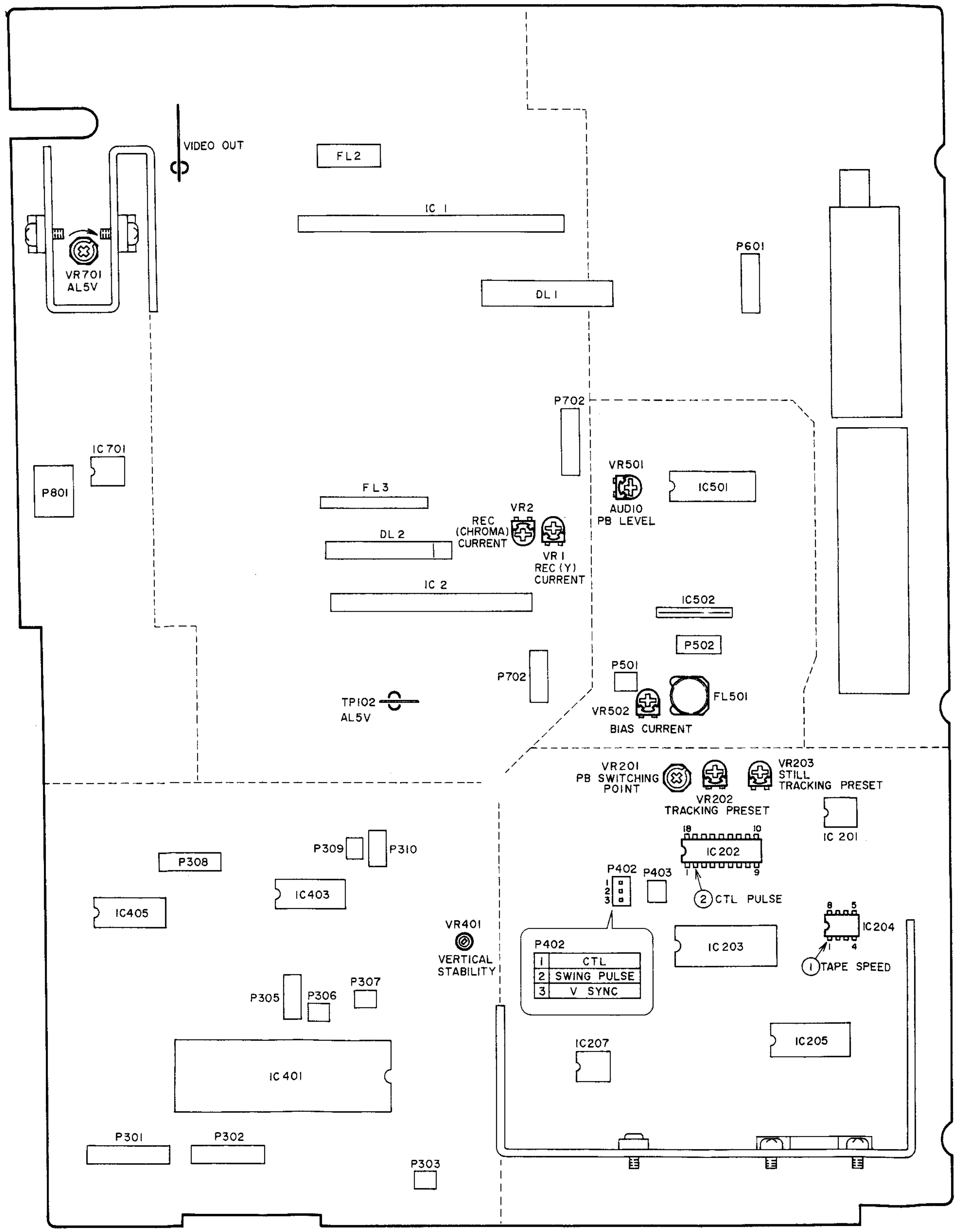
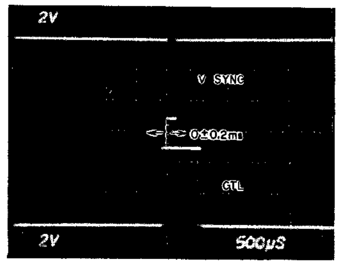
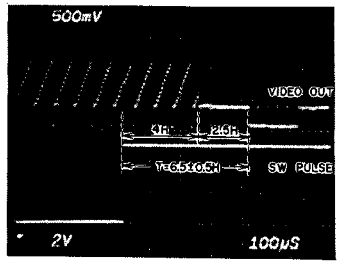

VIDEO OUT
FL2
IC 1
P601
VR701
AL5V
DL1
P702
IC701
P801
FL3
VR501
AUDIO
PB LEVEL
IC501
VR2
REC
(CHROMA)
CURRENT
DL2
VR1
REC (Y)
CURRENT
IC 2
IC502
P502
P702
P501
TP102
AL5V
VR502
BIAS CURRENT
FL501
VR201
PB SWITCHING
POINT
VR202
TRACKING PRESET
VR203
STILL
TRACKING PRESET
IC 201
IC 202
18
10
1
9
P402
P403
②CTL PULSE
P308
P309
P310
IC403
IC405
VR401
VERTICAL
STABILITY
P402
1 CTL
2 SWING PULSE
3 V SYNC
IC 203
IC204
8
5
1
4
①TAPE SPEED
P305
P306
P307
IC401
IC207
IC205
P301
P302
P303

Fig. 10-1 Main PCB

10-1. POWER SUPPLY ADJUSTMENT

Step	Adjustment Item	Input Signal or Test Tape	Mode	Test Point	Adjustment Parts	Result & Remarks
1	AL 5V	NONE	E-E	TP102	VR701	5.1 ± 0.2V

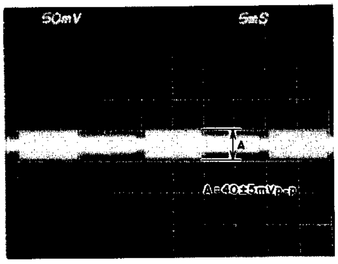
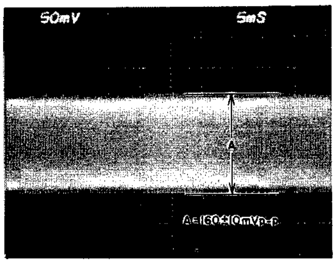
10-2. SERVO ADJUSTMENT

Step	Adjustment Item	Input Signal or Test Tape	Mode	Test Point	Adjustment Parts	Result & Remarks
1	Tracking Preset	PAL/SECAM Reference Test Tape AT-750795 (TF-508RF)	PB	P402 ③ (V SYNC) IC202 ② (CTL)	VR202	Set the Tracking control volume to Center click position.  Adjust VR202 so that the phase at raising part of CTL pulse and V SYNC pulse are lined up.
2	PB Switching Point	PAL/SECAM Reference Test Tape AT-750795 (TF-508RF)	PB	VIDEO OUT P402 ②	VR201	 Adjust T1 with VR201 to 6.5 ± 0.5H.
3	STILL TRACKING PRESET	PAL COLOR BAR FROM COLOR BAR GENERATOR	REC PB then PAUSE/ STILL	MONITOR TV	VR203	Adjust VR203 only in the unsuccessful case that even after adjusted the STILL TRACKING CONTROL on the Front Panel. 1. Set the STILL TRACKING CONTROL on the Front Panel to center click position. 2. Adjust VR203 so that until noise bar of still picture is reduce.
4	VERTICAL STABILITY	TV PROGRAM	REC PB then PAUSE/ STILL	MONITOR TV	VR401	Adjust VR401 so that until still picture vibration is reduce.

10-3. VIDEO ADJUSTMENT

Precautionary items prior to adjustments

1. The color bar generator output should be 1.0 Vp-p.
2. Video output terminal should be terminated with 75 ohms (dummy or load).

Step	Adjustment Item	Input Signal or Test Tape	Mode	Test Point	Adjustment Parts	Result & Remarks
1	REC CURRENT	PAL Color Bar from Color Bar Generator	REC	TP2	VR2 (Chroma) VR1 (Y)	1. Turn VR1 fully counter-clockwise (Y-zero)  2. Adjust VR2 so that the chroma REC waveform is 40 ± 5 mVp-p as shown above.  3. Adjust VR1 so that the Y REC Current waveform is 160 ± 10 mVp-p as shown above.

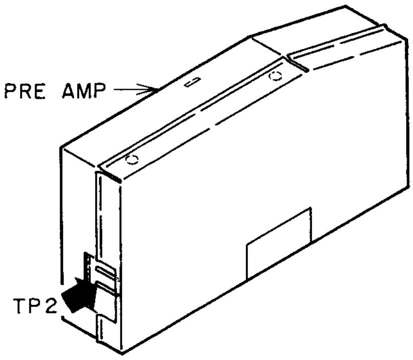


Fig. 10-2

10-4. IMS ADJUSTMENT

Step	Adjustment Item	Input Signal or Test Tape	Mode	Test Point	Adjustment Parts	Result & Remarks
1	Charactor Position	PAL Color Bar from Color Bar Generator	E-E	MONITOR TV	VR1	1. Depress the Display button to choose a Counter. 2. Depress the Counter Reset button. 3. Adjustment VR1 so that the right side of the "0" (first "0" from the right) is located on the boarder line between Cyan and Green as shown in Fig. 10-4.

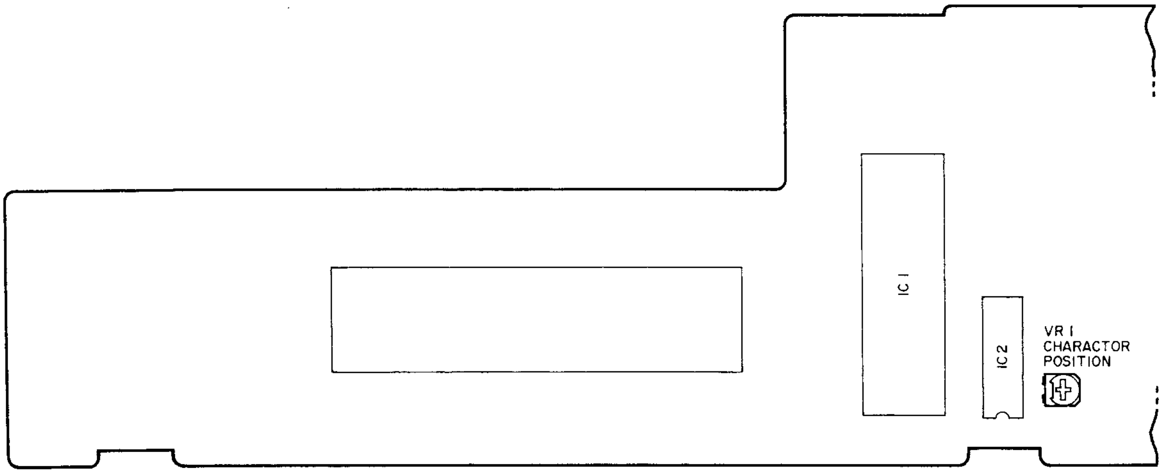

IC 1
IC 2
VR 1
CHARACTOR
POSITION

Fig. 10-3

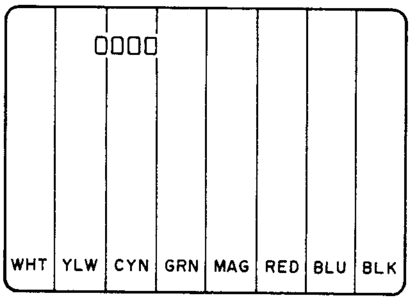

0000
WHT
YLW
CYN
GRN
MAG
RED
BLU
BLK

Fig. 10-4

10-5. AUDIO ADJUSTMENT

Step	Adjustment Item	Input Signal or Test Tape	Mode	Test Point	Adjustment Parts	Result & Remarks
1	PB Level	PAL Audio Level Test Tape AT-751776 (TF-513L)	PB	Audio	VR501	−9.0 ± 0.5 dBm
2	Tape Speed	PAL Reference Test Tape AT-750775 (TF-508RF)	PB	IC204 ①	Confirmation	445 ± 2Hz
3	Audio Head Azimuth	PAL 6 kHz Reference Test Tape AT-750795 (TF-508RF)	PB	Audio Output	Confirmation	-9.0^{+2}_{-4} dBm
4	Bias Current	Audio 1kHz, −8dBm input	REC	A/C Head Test Terminal (Ref. to Fig. 10-5)	VR502	Connect an AC voltmeter to A/C Head Test Terminal (Ref. to Fig. 10-5) Adjust VR502 so that the meter reads 280 ± 10 mV (RMS)

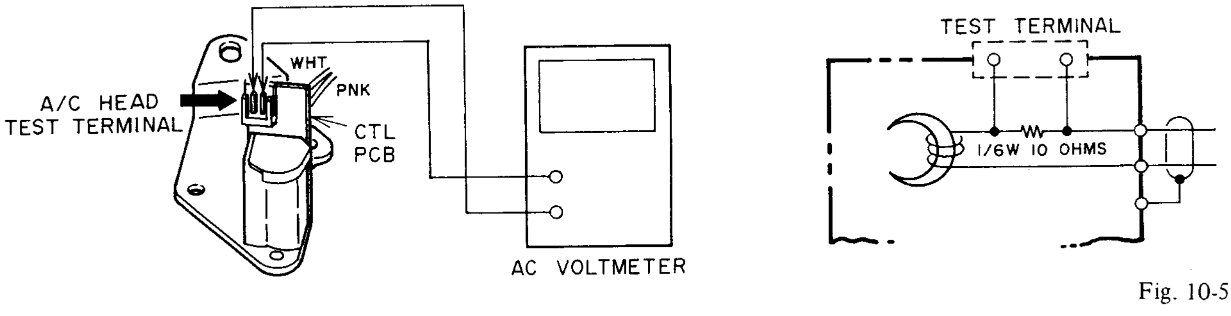

A/C HEAD TEST TERMINAL
WHT
PNK
CTL PCB
AC VOLTMETER
TEST TERMINAL
1/6W 10 OHMS

Fig. 10-5

XI. PC BOARD TITLES AND IDENTIFICATION NUMBERS

PC Board Title		PC Board Number	Remark
MAIN	PC Board	V1047D5010 (2ED)	
OPERATION	PC Board	V1047A5020 (A)	
FUNCTION	PC Board	V1047B5080	
PRE-AMP	PC Board	V1047B5050 (A)	
POWER	PC Board	V1047C5030 (A)	
EVM	PC Board	V1047C5060	EV-M, EK, ES, EG
SUB (3)	PC Board	V1047D5250	EV-M only
SENSOR LED	PC Board	V1047D5100	
SENSOR REEL	PC Board	V1047D5110	
SENSOR (R)	PC Board	V1047D5130	
SENSOR (L)	PC Board	V1047D5140	
A/C HEAD	PC Board	V1047D5150	
F.E HEAD	PC Board	V1047D5160	
HEAD SUB	PC Board	V1047D5170	
SWITCH EJECT	PC Board	V1030D5190	
HEAD	PC Board	V1047D5180	

SECTION 2

PARTS LIST

TABLE OF CONTENTS

RECOMMENDED SPARE PARTS LIST 25
1. HEAD DRUM BLOCK 26
2. CHASSIS MECHA BLOCK (1) 27
3. CHASSIS MECHA BLOCK (2) 28
4. EJECTOR BLOCK 29
5. PC BOARD BLOCK 30
6. MAIN PC BOARD 30
7. OPERATION PC BOARD 31
8. FUNCTION PC BOARD 31
9. PRE AMP PC BOARD 31
10. VIF BLOCK 32
11. POWER SUPPLY PC BOARD 32
12. EVM PC BOARD 32
13. SENSOR REEL PC BOARD 32
14. SENSOR (L) PC BOARD 32
15. SENSOR (R) PC BOARD 32
16. SWITCH (EJ) PC BOARD 32
17. ASSEMBLY BLOCK 33
18. FINAL ASSEMBLY BLOCK 34
19. REMOTE CONTROL UNIT RC-V155 34
INDEX 35

ATTENTION

1. **When placing an order for parts, be sure to list Part No., Model No. and the description of each part. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.**
2. **Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.**
3. **Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.**

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
2-1x	BH-T2023A320A	HEAD BASE BLOCK
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20×03STL CMT
2-4	ZS-536488	BID20×08STL CMT
2-5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

A small "x" indicates that this part is not shown in the Photo or Illustration.

This number corresponds with the individual parts index number in that figure.

This number corresponds with the Figure Number.

b) PC Board

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
6-IC1	EI-324536	IC HD14049BP
6-IC2	EI-336801	IC MB8841-564M
6-C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
6-C1B	EC-350949	C MMY V 223M 250DC [J]
6-C1C	EC-338397	C MMY V 223M 125AC [C,A]
6-X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A]: AAL(U.S.A.)	[S]: SAA(Australia)
[B]: BEAB(England)	[U]: U/T(Universal Area)
[C]: CSA(Canada)	[V]: VDE(W. Germany)
[E]: CEE(Europe)	[Y]: Custom Version
[J]: JPN(Japan)	

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

WARNING

⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS

AVERTISSEMENT

⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT

RECOMMENDED SPARE PARTS LIST

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

NO.		PART NO.	DESCRIPTION
1		BF-B360531	FLYWHEEL CAPSTAN PART
2		BL-B360350	ARM TENSION BAND PART
3		BL-B360342	LEVER TENSION PART
4		BM-361544	CAPSTAN MOTOR MRX PAL
5		BM-B361467	LOADING MOTOR PART
6		BM-M3223A020A	PC MOTOR BLK SM-230 (DRUM MOTOR)
7		BR-B360517B	SUPPLY REEL PART
8		BR-B360517A	TAKE-UP REEL PART
9		BT-363353	⚠ TRANS POWER V47EG [EG]
10		BT-363945	⚠ TRANS POWER V47EK [EK,EK(Y1)]
11		BT-363949	⚠ TRANS POWER V47ES[ES]
12		BT-363946	⚠ TRANS POWER V47EV-M [EV-M]
13		BT-363950	⚠ TRANS POWER V47EZ[EZ]
14	N	BV-V1030A210A	LOWER DRUM BLK VS-603
15		BV-363232	RF CONVERTER BOOSTER EK [EK,EK(Y1),ES]
16		BV-363231	RF CONVERTER BOOSTER EO [EG]
17		BV-363234	RF CONVERTER SW MDLC2D093A EV [EV-M,EZ]
18	N	BV-V1030A220A	UPPER DRUM BLK VS-603EG
19		ED-363351	⚠ D SILICON DSA17C
20		ED-363350	⚠ D SILICON S5566B
21		ED-356424	D LED BG5525S GREEN
22		ED-357540	D LED LN59
23		ED-355607	D LED PR 5505S RED
24		ED-705414	D LED SE303A INFRARED
25		ED-360409	D PHOT PN323B
26		ED-718039	D SILICON DAN201
27		ED-357754	D SILICON DS135D 200/1.0A
28		ED-344280	D SILICON H GMA-01-FY2 F05
29		ED-624903	D SILICON H 1S2473
30		ED-362998	D ZENER H HZS9.1J F05 B3
31		ED-313846	D ZENER H HZ16 3
32		ED-329051	D ZENER H HZ24 3 [EV-M]
33		ED-305706	D ZENER H HZ7 B3
34		ED-337266	D ZENER H HZ9 A1
35		ED-346609	D ZENER H HZ9 C1
36		ED-365109	D ZENER H MA1043-H
37	N	EE-364670	TUNING UNIT UBH050027A EA14CH203 [EZ]
38		EE-360405	TUNING UNIT UBH050028A 14CH 203 [EG,EV-M,ES]
39		EE-364472	TUNING UNIT UBH16 12CH 203 [EK,EK(Y1)]
40		EE-345116	TV TUNER TEEB1-013A [EK,EK(Y1)]
41		EE-345115	TV TUNER TEED1-A04A
42		EE-345121	TV TUNER TEEZ1-015A [ES]
43		EE-352284	TV TUNER TEEZ1-020A [EZ]
44		EF-355226	⚠ FUSE BET T 1.00A 250V [ED,EK(Y1)]
45		EF-355398	⚠ FUSE BET T 2.00A 250V [EK,EK(Y1)]
46		EF-344106	⚠ FUSE ICP-N10 150V 0.4A
47		EF-623103	⚠ FUSE SEMKO T 1.00A 250V [EG,EZ,ES]
48		EF-601301	⚠ FUSE SEMKO T 2.00A 250V [EG,EV-M,EZ,ES]
49		EH-347743	COMP R RKC1/8B4 103J [EG,ES,EV-M]
50		EH-360340	DL EFD-EN645A31P
51		EH-360341	DL EFD-HR124A13D
52		EH-360339	FILTER LC AP AF-25P [EG,EV-M,EZ]
53		EH-364045	FILTER LC FF-78P
54		EH-360337	FILTER LC LP LF-47P
55		EI-353421	⚠ IC BA6229
56		EI-337530	⚠ IC μPC574J
57		EI-360561	IC AN3792
58		EI-360563	IC AN3794
59		EI-360334	IC AW2619
60		EI-356288	IC BA225A
61		EI-360648	IC BA5115
62		EI-360333	IC EHM-M96A8U67K
63		EI-352714	IC HA11752
64		EI-356238	IC LA6324
65		EI-347116	IC LA6358
66		EI-356370	IC LA7224
67		EI-364135	IC MB88501-395M R-OPE3 CUSTOM
68	N	EI-366681	IC MB88521-140M R-SYS5 CUSTOM
69		EI-360560	IC MN6178XAL
70		EI-360565	IC M5223P
71		EI-360404	IC M5450-011P
72		EI-360564	IC M54548L
73		EI-360396	IC S-8054HN
74		EI-363347	IC TC9018P
75		EI-358506	IC μPC1513HA
76		EI-749983	IC μPD1943G
77		EI-347991	OSC CE CSA6.00MS 6MHZ
78		EI-749984	OSC CE KBR455BAT
79		EI-356371	OSC X'TAL MS-309 4.194304MHZ
80		EI-364562	OSC X'TAL MX-44 4.433619MHZ
81		EL-363355	PL CORD 12.0V 75MA 200/200
82		EO-360647	COIL OSC 1 MX-102
83		EO-356372	COIL TUN 1 038-332 38KHZ
84		EQ-364207	RELAY SIGNAL G5E-V-H 1TR 5V
85		ER-348272	⚠ R FUSE ERD2FC S10 1/4W 12R0G
86		ER-200595	⚠ R FUSE ERD2FC S10 1/4W 5R6J
87		ER-362257	⚠ R FUSE ERQ-12H F17 1/2W R47K
88		ER-364508	⚠ R FUSE ERQ-12H F17 1/2W R56K
89		ER-365157	⚠ R FUSE H F10 ERQ-14LE 1/4W R43K
90		ER-353878	⚠ R OMF H S15 FS 1W 2R2J
91		ES-354430	⚠ SW SLIDE 00220950 02-02-2N [EG,EK,EK(Y1),EV-M,ES]
92		ES-360433	SW LEAF MRX
93		ES-361479	SW LEAF MSW-1594C
94		ES-353622	SW PUSH EVQ-WU7001 02-2
95		ES-360408	SW SLIDE ESD-14187 1-01-02N
96		ES-349474	SW TACT SKHHAM004A
97		ET-360646	⚠ TR DTA143ES F05
98		ET-349882	⚠ TR 2SA1283 D,E F05
99		ET-356224	⚠ TR 2SA1286 G,H,J F05
100		ET-322598	⚠ TR 2SB632K E,F
101		ET-363359	⚠ TR 2SD1406 GR
102		ET-361463	PHOT SENSOR ON2170 Q,R
103		ET-363953	TR DTA114TS
104		ET-354415	TR DTA144ES
105		ET-353897	TR DTC114ES
106		ET-360399	TR DTC114TS
107		ET-354365	TR DTC114YS
108		ET-354371	TR DTC124ES
109		ET-364060	TR DTC143ES
110		ET-354414	TR DTC144ES
111		ET-356236	TR FET 2SK363 GR.BL
112		ET-361490	TR PHOT PN268 R,S
113		ET-360401	TR UN4116
114		ET-364040	TR UN421D
115		ET-360400	TR UN4210
116		ET-361729	TR UN4217
117		ET-308472	TR 2SA1115 E,F,G F05
118		ET-321644	TR 2SC1213 C
119		ET-308141	TR 2SC2603 G F05
120		ET-355669	TR 2SC3246 G,H,J F05
121		ET-364153	TR 2SC3246 J,K F05
122		ET-361736	TR 2SC3576
123		ET-347961	TR 2SD1012-V G F05
124		ET-718040	TR 2SD1468
125		EV-363511	R S-FIX EVTK-4CA00BQ4 3P 473
126		EV-356322	R S-FIX H KVSF637A 3P 502
127		EV-356575	R S-FIX H RH0615CJ3J 3P 222
128		EV-356582	R S-FIX H RH0615CS4J 3P 473
129		EV-358862	R S-FIX H RH0615CS5J 3P 474
130		EV-356579	R S-FIX H RH0615C13J 3P 102
131		EV-356577	R S-FIX H RH0615C14J 3P 103
132		EV-366437	R S-FIX H VM6CKPV31S 3P 0.3W 102
133		EV-366436	R S-FIX H VM6CKPV31S 3P 0.3W 104
134		EV-360410	VR ROTARY K091C0G0C 103
135		EV-360569	VR ROTARY K091C0G0C 104
136		EX-361672	DEW SENSOR (HEATER) MRX
137		EZ-362247	⚠ CIRCUIT PROTECTOR TBC6211-21-0442 [EV-M]
138		HE-361456	HEAD E HVFMD0005A
139		HR-361454	HEAD COMBO HVMLA1004C
140		MB-360534	BELT IDLER
141		MB-360533	BELT PAL
142		MB-364011	BELT SYNC NB930N15-020T
143		MP-361543	PINCH ROLLER PART
144		MR-364010	PULLEY WORM
145		MZ-361314	GEAR (1)
146		MZ-360640	GEAR (2)
147		MZ-361313	GEAR (3)
148		MZ-360639	GEAR (4)
149		MZ-360638	GEAR (5)
150	N	MZ-364677	GEAR CAM EJECT (2)
151	N	MZ-364676	GEAR CAM MAIN (2)
152		MZ-B360642	GEAR EJECT PART
153		MZ-360384	GEAR LOADING (S)
154		MZ-360385	GEAR LOADING (T)
155	N	MZ-366960	GEAR TU BLK(2)
156		MZ-360453	WORM GEAR
157		VT-363354	ROTARY ENCORDER D2ZQ-R9
158		VT-360148	VERTICAL POLE PART

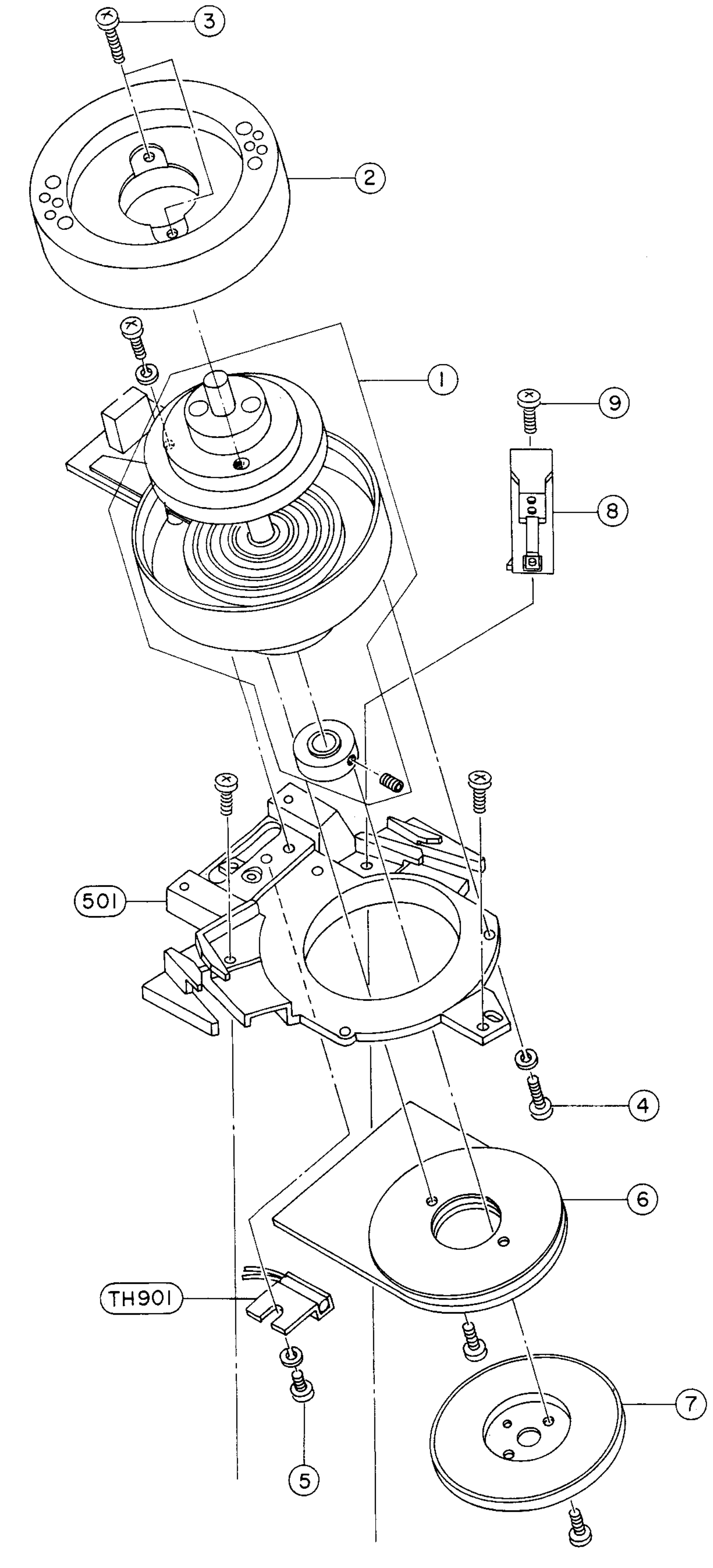
"NOTE" N: New Part

1. HEAD DRUM BLOCK

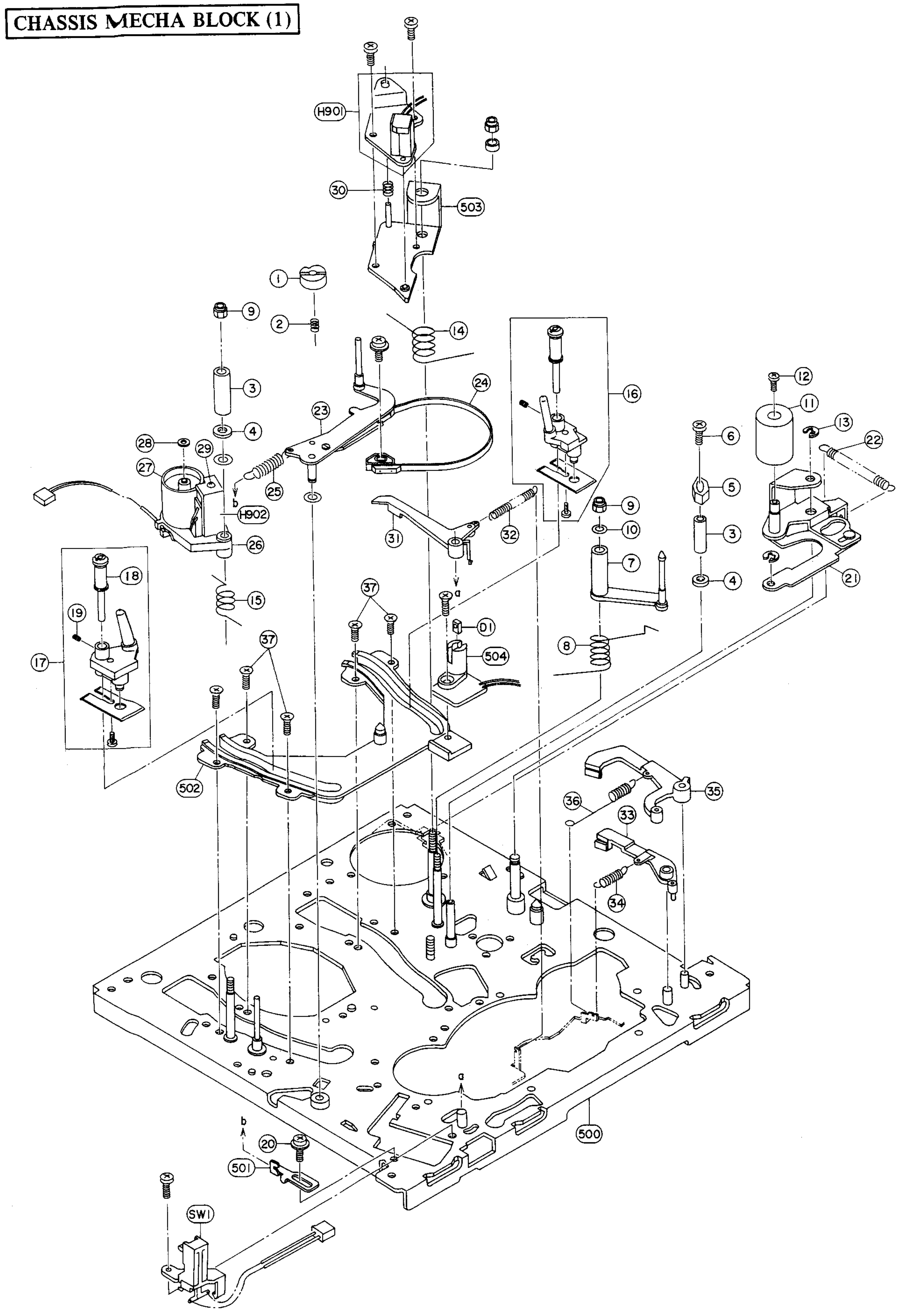
REF. NO.	PART NO.	DESCRIPTION
	HEAD DRUM BLOCK	
1-1	BV-V1030A210A	LOWER DRUM BLK VS-603
1-2	BV-V1030A220A	UPPER DRUM BLK VS-603EG
1-3	ZS-362241	BID30×09STL CMT [UPPER DRUM FIX]
1-4	ZS-354332	PAN26×08STL CMT SW [LOWER DRUM FIX]
1-5	ZS-432843	PAN26×04STL CMT
1-TH901	EX-361672	DEW SENSOR (HEATER) MRX
	MOTOR SM-230 BLOCK	
1-6	BM-M3223A020A	PC MOTOR BLK SM-230 [DRUM MOTOR]
1-7	BV-B362443	YOKE MAGNET (2) PART
	ASSEMBLY BLOCK	
1-8	VT-361452	DRUM EARTH SP ASSY (A)
1-9	ZS-421806	PAN30×08STL CMT

NOTE: The parts reference numbered here except the ones in 500's are normally stocked for replacement purpose. The rest of the parts shown in this manual are not stocked since they are seldom required for routine service.

HEAD DRUM BLOCK



CHASSIS MECHA BLOCK (1)



2. CHASSIS MECHA BLOCK (1)

REF. NO.	PART NO.	DESCRIPTION
	CHASSIS MECHA BLOCK	
2-1	ZS-360372	SCREW ADJUST
2-2	ZG-363349	SP PUSH ADJUST SCREW
2-3	MS-364796	GUIDE TAPE (3)
2-4	MS-364797	GUIDE TAPE (4)
2-5	MS-362181	GUIDE TAPE TU
2-6	ZS-608095	PAN20x05STL CMT
2-7	BL-B360353	LEVER REVIEW PART
2-8	ZG-360605	SP TORSION REVIEW ARM
2-9	ZW-350839	N30 NYLON
2-10	ZW-354859	PW31x070x100PSL
2-11	MP-361543	PINCH ROLLER PART
2-12	ZS-477876	PAN20x03STL CMT
2-13	ZW-270101	RING E 300SUP CMT
2-14	ZG-360603	SP TORSION A/C HEAD
2-15	ZG-360604	SP TORSION HOLDER FE HEAD
2-16	BV-V1047A080A	LOADING LEADER (R) BLK VS-112EG
2-17	BV-V1047A090A	LOADING LEADER (L) BLK VS-112EG
2-18	VT-360148	VERTICAL POLE PART
2-19	ZS-321729	6SET20x040SCM PKR WP
2-20	ZS-328607	SCREW TRIPLE PAN30x05
2-21	BL-B360361	ARM PINCH ROLLER PART
2-22	ZG-360602	SP PULL PINCH
2-23	BL-B360342	LEVER TENSION PART
2-24	BL-B360350	ARM TENSION BAND PART
2-25	ZG-321731	SP T2-04.0/0.40-25.0 T2-115
2-26	MZ-B362281	HOLDER FE HEAD (2) PART
2-27	MR-364335	ROLLER IMPEDANCE
2-28	ZW-361458	PUSH WASHER 16x032x025PSL
2-29	ZS-460440	PAN20x04STL CMT
2-30	ZG-313258	SP C-03.5/0.80-10.0 C-102
2-31	BL-B360486	LEVER FF BRAKE PART
2-32	ZG-364338	SP PULL FF BRAKE
2-33	BL-B360525	LEVER SUB BRAKE (R) PART
2-34	ZG-364339	SP PULL REW BRAKE
2-35	BL-B360522	LEVER BRAKE REVIEW PART
2-36	ZG-364337	SP PULL REVIEW BRAKE
2-37	ZS-360391	SCREW SPECIAL
2-H901	HR-361454	HEAD COMBO HVMLA1004C
2-H902	HE-361456	HEAD E HVF MD0005A
2-SW1	ES-360433	SW LEAF MRX
2-D1	ED-357540	D LED LN59

NOTE: The parts reference numbered here except the ones in 500's are normally stocked for replacement purpose. The rest of the parts shown in this manual are not stocked since they are seldom required for routine service.

Some of VS-155E have been manufactured with VS-112E type mechanism.
For VS-112E type mechanism, refer to CHASSIS MECHA BLOCK (1), (2) in VS-112E Service Manual.

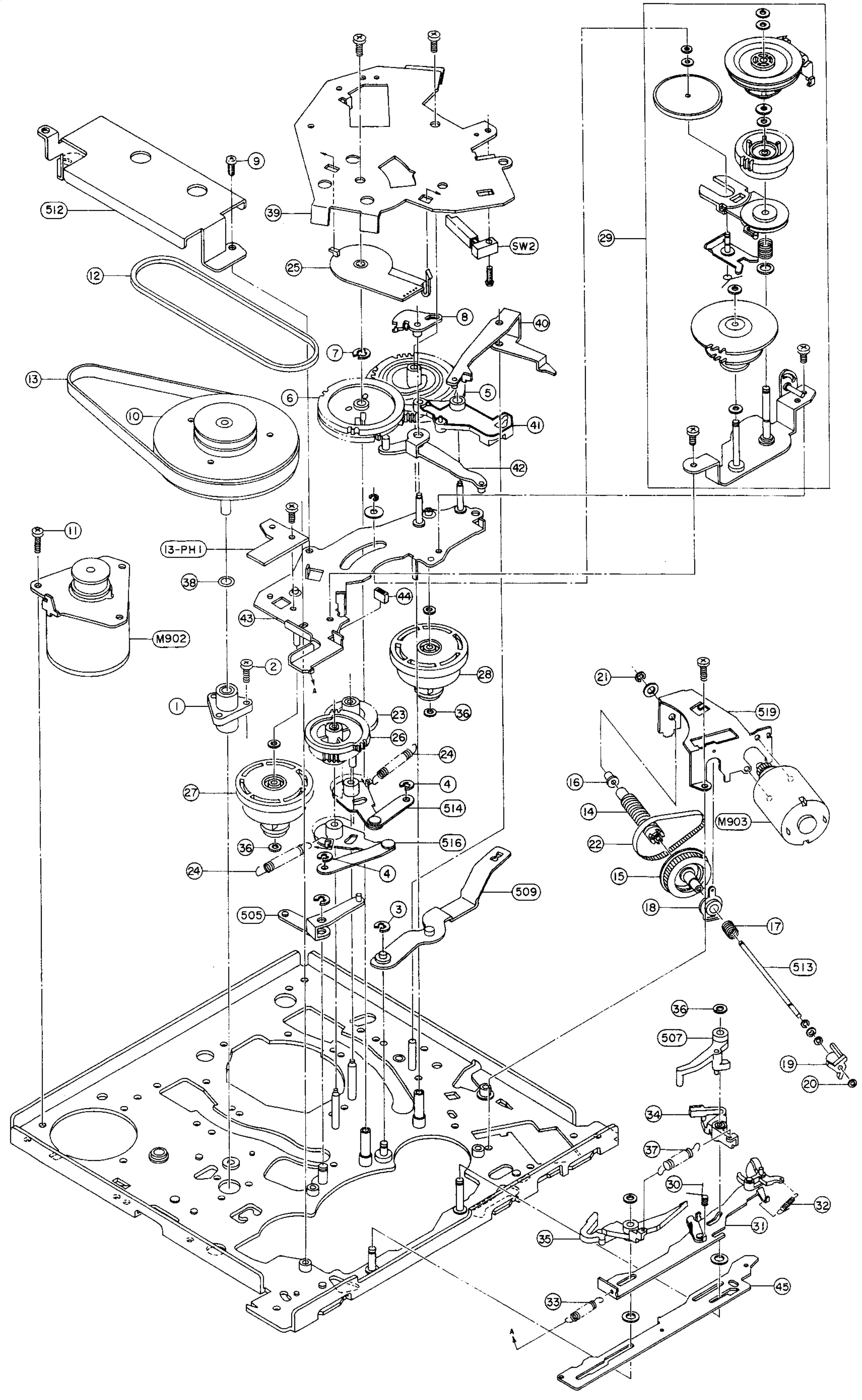
3. CHASSIS MECHA BLOCK (2)

REF. NO.	PART NO.	DESCRIPTION
	CHASSIS MECHA BLOCK	
3-1	MZ-B360528	HOLDER CAPSTAN PART
3-2	ZS-379350	PAN30x06STL CMT
3-3	ZW-410051	RING E250SUP CMT
3-4	ZW-357164	RING E 230SUP CMT
3-5	MZ-364677	GEAR CAM EJECT (2)
3-6	MZ-364676	GEAR CAM MAIN (2)
3-7	ZW-270101	RING E 300SUP CMT
3-8	ML-366736	ARM SET FREE (2)
3-9	ZS-422076	PAN30x05STL CMT
3-10	BF-B360531	FLYWHEEL CAPSTAN PART
3-11	ZS-422076	PAN30x05STL CMT
3-12	MB-360534	BELT IDLER
3-13	MB-360533	BELT PAL
3-14	MZ-360453	WORM GEAR
3-15	MR-364010	PULLEY WORM
3-16	ZW-360479	WASHER THRUST
3-17	ZG-360441	SP TORSION ONE WAY
3-18	MZ-360440	HOLDER PULLEY WORM
3-19	MR-360432	PULLEY TRIGGER
3-20	ZW-361458	PUSH WASHER 16x032x025PSL
3-21	ZW-356657	RING E150SUP CMT
3-22	MB-364011	BELT SYNC NB930N15-020T
3-23	MZ-360384	GEAR LOADING (S)
3-24	ZG-360601	SP PULL LOADING
3-25	VT-363354	ROTARY ENCORDER D2ZQ-R9
3-26	MZ-360385	GEAR LOADING (T)
3-27	BR-B360517A	TAKE-UP REEL PART
3-28	BR-B360517B	SUPPLY REEL PART
3-29	MZ-366960	GEAR TU BLK(2)
3-30	ZG-360438	SP TORSION LIFTER
3-31	MZ-B366734	PLATE F/R SLIDE (2) PART
3-32	ZG-358276	SP T6-03.2/0.20-12.5 T6-041
3-33	ZG-350891	SP T2-04.0/0.40-22.4 T2-114
3-34	ML-B360519	ARM (S) MAIN BRAKE PART
3-35	ML-B360520	ARM (TU) MAIN BRAKE PART
3-36	ZW-360541	WASHER POLY SLIDER (3)
3-37	ZG-358167	SP T5-04.0/0.40-50.0 T5-121
3-38	ZW-360539	STOPPER OIL
3-39	MZ-360477	PLATE MODE SW
3-40	ML-B366735	LEVER CAM TENSION (2) PART
3-41	ML-B366615	LEVER CAM F/R PART
3-42	ML-B360460	LEVER CAM SLIDE PART
3-43	MZ-B360425	SUB FRAME PART
3-44	MB-366733	STOPPER SLIDE (2)
3-45	ML-366738	PLATE MAIN SLIDE (2)
3-M902	BM-361544	CAPSTAN MOTOR MRX PAL
3-M903	BM-B361467	LOADING MOTOR PART
3-SW2	ES-361479	SW LEAF MSW-1594C
	SENSOR REEL PC BOARD	
13-PH1	ET-361463	PHOT SENSOR ON2170 Q,R

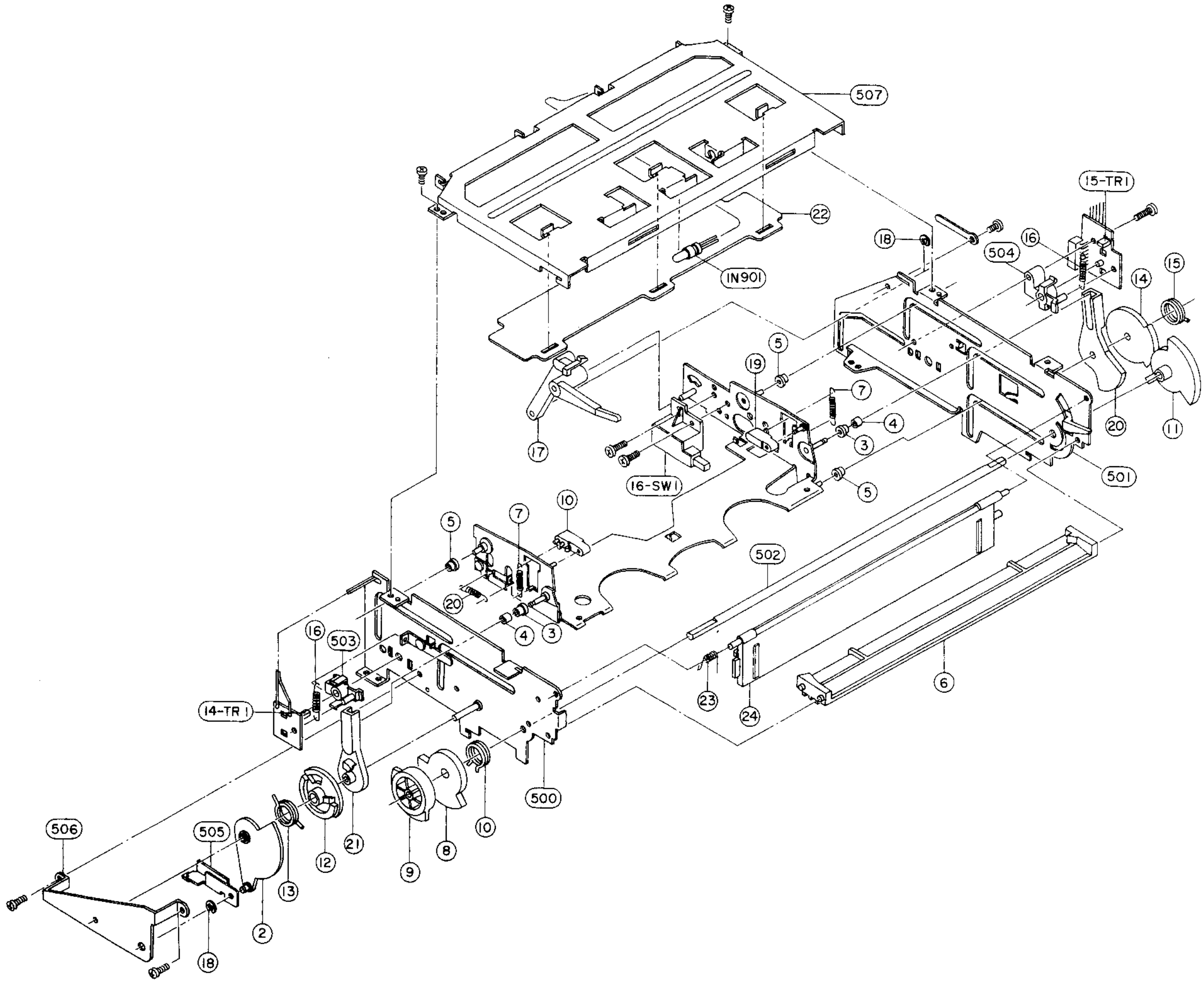
NOTE: The parts reference numbered here except the ones in 500's are normally stocked for replacement purpose. The rest of the parts shown in this manual are not stocked since they are seldom required for routine service.

Some of VS-155E have been manufactured with VS-112E type mechanism.
For VS-112E type mechanism, refer to CHASSIS MECHA BLOCK (1), (2) in VS-112E Service Manual.

CHASSIS MECHA BLOCK (2)



EJECTOR BLOCK



4. EJECTOR BLOCK

REF. NO.	PART NO.	DESCRIPTION
	EJECTOR BLOCK	
4-1	BV-V1047A250A	EJECTOR BLK VS-112EG
4-2	MZ-B360642	GEAR EJECT PART
4-3	MR-361310	ROLLER (1)
4-4	MR-361311	ROLLER (2)
4-5	MR-361312	ROLLER (3)
4-6	SZ-360607	GUIDE
4-7	ZG-357865	SP T5-04.0/0.40-11.2 T5-108
4-8	MZ-361314	GEAR (1)
4-9	MZ-361313	GEAR (3)
4-10	ZG-360615	SP TORSION (EJ)
4-11	MZ-360640	GEAR (2)
4-12	MZ-360639	GEAR (4)
4-13	ZG-360614	SP TORSION (L)
4-14	MZ-360638	GEAR (5)
4-15	ZG-360613	SP TORSION (R)
4-16	ZG-358212	SP T5-06.3/0.50-16.0 T5-180
4-17	BL-B361308	ARM LID OPENER PART
4-18	ZW-357164	RING E 230SUP CMT
4-19	ML-361316	ARM PRESSING
4-20	ML-360634	ARM LOADING (R)
4-21	ML-360635	ARM LOADING (L)
4-IN901	EL-363355	PL CORD 12.0V 75MA 200/200
	SENSOR (L) PC BOARD	
14-TR1	ET-361490	TR PHOT PN268 R,S
	SENSOR (R) PC BOARD	
15-TR1	ET-361490	TR PHOT PN268 R,S
	SWITCH (EJ) PC BOARD	
16-SW1	ES-353622	SW PUSH EVQ-WU7001 02-2
	ASSEMBLY BLOCK	
4-22	SP-364666	PLATE MIRROR (2)
4-23	ZG-360616	SP TORSION
4-24	SE-361317	MASK CASSETTE

NOTE: EJECTOR BLOCK includes 4-2 to 4-IN901 and 14-TR1, 15-TR1, 16-SW1.

NOTE: The parts reference numbered here except the ones in 500's are normally stocked for replacement purpose. The rest of the parts shown in this manual are not stocked since they are seldom required for routine service.

5. PC BOARD BLOCK

REF. NO.	PART NO.	DESCRIPTION
5-1A	BA-V1047C300A	PC MAIN BLK VS-155EG [EG]
5-1B	BA-V1047C300B	PC MAIN BLK VS-155EK [EK,EK(Y1)]
5-1D	BA-V1047C300D	PC MAIN BLK VS-155EV-M [EV-M]
5-1E	BA-V1047C300E	PC MAIN BLK VS-155EZ [EZ]
5-1F	BA-V1047C300F	PC MAIN BLK VS-155ES [ES]
5-2A	BA-V1047C330A	PC OPERATION BLK VS-155EG [EG,ES]
5-2B	BA-V1047C330B	PC OPERATION BLK VS-155EK [EK,EK(Y1)]
5-2C	BA-V1047C330C	PC OPERATION BLK VS-155EA [EZ]
5-2D	BA-V1047C330D	PC OPERATION BLK VS-155EV-M [EV-M]
5-3	BA-V1047A400D	PC PRE AMP BLK VS-155EG

NOTE: PC MAIN BLK includes MAIN PC BOARD and VIF BLOCK.

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
	MAIN PC BOARD	
6-IC1	EI-360333	IC EHM-M96A8U67K
6-IC2	EI-360334	IC AW2619
6-IC201	EI-360565	IC M5223P
6-IC202	EI-360561	IC AN3792
6-IC203	EI-360560	IC MN6178XAL
6-IC204	EI-360565	IC M5223P
6-IC205	EI-360563	IC AN3794
6-IC206	EI-360564	IC M54548L
6-IC207	EI-356288	IC BA225A
6-IC401	EI-366681	IC MB88521-140M R-SYS5 CUSTOM
6-IC402	EI-353421	⚠ IC BA6229
6-IC403	EI-356238	IC LA6324
6-IC404	EI-360396	IC S-8054HN
6-IC405	EI-363347	IC TC9018P
6-IC501	EI-360648	IC BA5115
6-IC502	EI-358506	IC μPC1513HA
6-IC601	EI-337530	⚠ IC μPC574J
6-IC701	EI-347116	IC LA6358
6-TR1to3	ET-308472	TR 2SA1115 E,F,G F05
6-TR4	ET-308141	TR 2SC2603 G F05
6-TR5,6	ET-308472	TR 2SA1115 E,F,G F05
6-TR7,8	ET-308141	TR 2SC2603 G F05
6-TR9	ET-308472	TR 2SA1115 E,F,G F05
6-TR10to13	ET-308141	TR 2SC2603 G F05
6-TR14	ET-308472	TR 2SA1115 E,F,G F05
6-TR15to17	ET-356224	TR 2SA1286 G,H,J F05
6-TR18to21	ET-308141	TR 2SC2603 G F05
6-TR22	ET-308472	TR 2SA1115 E,F,G F05
6-TR23	ET-308141	TR 2SC2603 G F05
6-TR24	ET-354414	TR DTC144ES
6-TR25	ET-361729	TR UN4217
6-TR26	ET-353897	TR DTC114ES [EG,EV-M]
6-TR27	ET-354415	TR DTA144ES
6-TR28	ET-354414	TR DTC144ES
6-TR29,30	ET-353897	TR DTC114ES [EG,EV-M]
6-TR31	ET-308141	TR 2SC2603 G F05
6-TR32	ET-361729	TR UN4217
6-TR38	ET-354414	TR DTC144ES
6-TR201	ET-308141	TR 2SC2603 G F05
6-TR202	ET-356224	TR 2SA1286 G,H,J F05
6-TR203	ET-354365	TR DTC114YS
6-TR204	ET-322598	⚠ TR 2SB632K E,F
6-TR205	ET-308141	TR 2SC2603 G F05
6-TR206	ET-308472	TR 2SA1115 E,F,G F05
6-TR207,208	ET-308141	TR 2SC2603 G F05
6-TR210	ET-354414	TR DTC144ES
6-TR211	ET-360399	TR DTC114TS
6-TR212,213	ET-308472	TR 2SA1115 E,F,G F05
6-TR214,215	ET-353897	TR DTC114ES
6-TR216	ET-308141	TR 2SC2603 G F05
6-TR401	ET-354371	TR DTC124ES
6-TR402	ET-355669	TR 2SC246 G,H,J F05
6-TR403	ET-308472	TR 2SA1115 E,F,G F05
6-TR404,405	ET-360400	TR UN4210
6-TR406,407	ET-363953	TR DTA114TS
6-TR408	ET-354371	TR DTC124ES
6-TR410	ET-360401	TR UN4116
6-TR411	ET-308472	TR 2SA1115 E,F,G F05
6-TR413	ET-364040	TR UN421D
6-TR414	ET-308472	TR 2SA1115 E,F,G F05
6-TR416to418	ET-308472	TR 2SA1115 E,F,G F05
6-TR501	ET-308141	TR 2SC2603 G F05
6-TR502	ET-354414	TR DTC144ES
6-TR503	ET-360646	⚠ TR DTA143ES F05
6-TR601,602	ET-308141	TR 2SC2603 G F05
6-TR603	ET-356224	⚠ TR 2SA1286 G,H,J F05
6-TR604	ET-321644	TR 2SC1213 C
6-TR605to607	ET-308472	TR 2SA1115 E,F,G F05 [EG,EV-M,EZ,ES]
6-TR608,609	ET-349882	⚠ TR 2SA1283 D,E F05 Q
6-TR611	ET-308141	TR 2SC2603 G F05
6-TR612	ET-356236	TR FET 2SK363 GR.BL
6-TR613	ET-356224	⚠ TR 2SA1286 G,H,J F05 [EV-M,EZ,ES]
6-TR701,702	ET-363359	⚠ TR 2SD1406 GR
6-TR703	ET-356224	⚠ TR 2SA1286 G,H,J F05
6-D1	ED-344280	D SILICON H GMA-01-FY2 F05
6-D2	ED-624903	D SILICON H 1S2473
6-D3	ED-344280	D SILICON H GMA-01-FY2 F05 [EG,EV-M]
6-D4,5	ED-344280	D SILICON H GMA-01-FY2 F05
6-D201	ED-313846	D ZENER H HZ16 3
6-D202	ED-362998	D ZENER H HZS9.1J F05 B3
6-D203to205	ED-344280	D SILICON H GMA-01-FY2 F05
6-D210to212	ED-344280	D SILICON H GMA-01-FY2 F05
6-D402to405	ED-344280	D SILICON H GMA-01-FY2 F05
6-D406	ED-357754	D SILICON DS135D 200/1.0A
6-D407,408	ED-344280	D SILICON H GMA-01-FY2 F05
6-D501	ED-346609	D ZENER H HZ9 C1
6-D601,602	ED-344280	D SILICON H GMA-01-FY2 F05
6-D603	ED-337266	D ZENER H HZ9 A1
6-D604	ED-344280	D SILICON H GMA-01-FY2 F05 [EG,EV-M,EZ,ES]
6-D605,606	ED-344280	D SILICON H GMA-01-FY2 F05
6-D608	ED-337266	D ZENER H HZ9 A1 [EV-M,EZ,ES]
6-D609,610	ED-344280	D SILICON H GMA-01-FY2 F05 [EG,EV-M,EZ,ES]
6-D701	ED-365109	D ZENER H MA1043-H
6-D702	ED-305706	D ZENER H HZ7 B3
6-D703to705	ED-344280	D SILICON H GMA-01-FY2 F05
6-VR1	EV-356579	R S-FIX H RH0615C13J 3P 102
6-VR2	EV-356575	R S-FIX H RH0615CJ3J 3P 222
6-VR201	EV-366436	R S-FIX H VM6CKPV31S 3P 0.3W 104
6-VR202	EV-356582	R S-FIX H RH0615CS4J 3P 473
6-VR203	EV-358862	R S-FIX H RH0615CS5J 3P 474
6-VR401	EV-363511	R S-FIX EVTK-4CA00BQ4 3P 473
6-VR501	EV-356577	R S-FIX H RH0615C14J 3P 103
6-VR502	EV-356582	R S-FIX H RH0615CS4J 3P 473
6-VR701	EV-366437	R S-FIX H VM6CKPV31S 3P 0.3W 102
6-DL1	EH-360340	DL EFD-EN645A31P
6-DL2	EH-360341	DL EFD-HR124A13D
6-FL1	EH-360339	FILTER LC AP AF-25P [EG,EV-M,EZ]
6-FL2	EH-360337	FILTER LC LP LF-47P
6-FL3	EH-364045	FILTER LC FF-78P
6-FL501	EO-360647	COIL OSC 1 MX-102

REF. NO.	PART NO.	DESCRIPTION
6-L1	EO-330252	COIL FIX 1 EL0606SKI 101K
6-L2	EO-351865	COIL FIX 1 LAL02 F05 330J
6-L3	EO-356599	COIL FIX 1 LAL02 F05 270K
6-L4,5	EO-357507	COIL FIX 1 LAL02 F05 121K
6-L6	EO-330252	COIL FIX 1 EL0606SKI 101K
6-L7,8	EO-360555	COIL FIX 1 LAL02 F05 180K
6-L9,10	EO-351868	COIL FIX 1 LAL02 F05 470K
6-L11,12	EO-354600	COIL FIX 1 LAL02 F05 101K
6-L13,14	EO-330252	COIL FIX 1 EL0606SKI 101K
6-L15	EO-353900	COIL FIX 1 LAL02 F05 150K
6-L16	EO-351868	COIL FIX 1 LAL02 F05 470K
6-L17	EO-330252	COIL FIX 1 EL0606SKI 101K
6-L18	EO-345889	COIL FIX 1 EL0606SKI 331J
6-L19	EO-360554	COIL FIX 1 LAL02 F05 221K
6-L20	EO-353901	COIL FIX 1 LAL02 F05 560K [EG,EV-M]
6-L21	EO-356599	COIL FIX 1 LAL02 F05 270K
6-L22	EO-330252	COIL FIX 1 EL0606SKI 101K
6-L24	EO-356599	COIL FIX 1 LAL02 F05 270K
6-L25	EO-357508	COIL FIX 1 LAL02 F05 151K
6-L26,28	EO-351869	COIL FIX 1 LAL02 F05 820K
6-L29	EO-353901	COIL FIX 1 LAL02 F05 560K [EG,EV-M]
6-L501	EO-420344	COIL FIX 1 FL7H 472J
6-L502	EO-383308	COIL FIX 1 FL7H 272J
6-L601	EO-360554	COIL FIX 1 LAL02 F05 221K
6-L602	EO-354600	COIL FIX 1 LAL02 F05 101K
6-X1	EI-364562	OSC X'TAL MX-44 4.433619MHZ
6-X401	EI-347991	OSC CE CSA6.00MS 6MHZ
6-SF1,201	EF-344106	⚠ FUSE ICP-N10 150V 0.4A
6-FR1	ER-348272	⚠ R FUSE ERD2FC S10 1/4W 12R0G
6-R207	ER-340542	R MF H F05 1/6W 7502F
6-R231	ER-360559	⚠ R FUSE RF50S F12 1/2W 1R0J
6-R463	ER-353878	⚠ R OMF H S15 FS 1W 2R2J
6-R518	ER-337336	R MF H F05 1/6W 3302F
6-C2	EC-307793	C EC V F05 NP SM 220M 10DC
6-C236	EC-200948	C EC V F05 NP SM 1R0M 50DC
6-C522	EC-337966	C PP V APS 103J 100DC
6-C610	EC-358805	C TT V EF R47M 35.0DC
6-1A	EJ-363366	JACK PLATE VIDEO B-2 [EG]
6-1B	EJ-363367	JACK PLARE VIDEO B-1 [EK,EK(Y1),ES]
6-1C	EJ-363369	JACK PLATE VIDEO A-1 [EZ]
6-1D	EJ-363368	JACK PLATE VIDEO A-2 [EV-M]
6-2	ZS-353965	PLX BR30×12STL CMT [JACK PLATE FIX]
6-3A	BV-363231	RF CONVERTER BOOSTER EO [EG]
6-3B	BV-363232	RF CONVERTER BOOSTER EK [EK,EK(Y1),ES]
6-3D	BV-363234	RF CONVERTER SW MDLC2D093A EV [EZ,EV-M]
6-4	ZS-363459	PLX BR26×06STL CMT [RF CONVERTER FIX]
6-5A	BV-V1047A900A	VIF BLK VS-112EG [EG,EV-M]
6-5B	BV-V1047A900B	VIF BLK VS-112EK [EK,EK(Y1)]
6-5D	BV-V1047A900E	VIF BLK VS-112EZ [EZ]
6-5E	BV-V1047A900F	VIF BLK VS-112ES [ES]
6-6	EZ-200473	SILICON RUBBER SHEET TC-30
	SUB (3) PC BOARD (EV-M only)	
6-TR419	ET-363359	TR 2SD1406 GR [EV-M]
6-TR420	ET-308141	TR 2SC2603 G F05 [EV-M]
6-D409	ED-329051	D ZENER H HZ24 3 [EV-M]

7. OPERATION PC BOARD

REF. NO.	PART NO.	DESCRIPTION
7-IC1	EI-364135	IC MB88501-395M R-OPE3 CUSTOM
7-IC2	EI-360404	IC M5450-011P
7-TR1to13	ET-308141	TR 2SC2603 G F05
7-TR14	ET-364060	TR DTC143ES
7-TR15	ET-308141	TR 2SC2603 G F05
7-D1,2	ED-356424	D LED BG5525S GREEN [EG,EV-M,EZ,ES]
7-D3to14	ED-356424	D LED BG5525S GREEN
7-D15to18	ED-624903	D SILICON H 1S2473 [EG,EV-M,EZ,ES]
7-D19to42	ED-624903	D SILICON H 1S2473
7-D50	ED-355607	D LED PR 5505S RED
7-D52	ED-355607	D LED PR 5505S RED [EV-M,EZ]
7-D53	ED-355607	D LED PR 5505S RED
7-D54	ED-356424	D LED BG5525S GREEN
7-D55to57	ED-355607	D LED PR 5505S RED
7-D58,59	ED-624903	D SILICON H 1S2473
7-D60	ED-355607	D LED PR 5505S RED
7-D65	ED-624903	D SILICON H 1S2473 [EZ]
7-D66	ED-624903	D SILICON H 1S2473 [EK,EK(Y1)]
7-D70	ED-624903	D SILICON H 1S2473
7-SW1	ES-360408	SW SLIDE ESD-14187 1-01-02N
7-SW3	ES-349474	SW TACT SKHHAM004A [EV-M,EZ]
7-SW4to22	ES-349474	SW TACT SKHHAM004A
7-VR1	EV-356322	R S-FIX H KVSF637A 3P 502
7-X1	EI-356371	OSC X'TAL MS-309 4.194304MHZ
7-IB1	EH-347743	COMP R RKC1/8B4 103J
7-PM1A	EE-360405	TUNING UNIT UBH050028A 14CH 203 [EG,EV-M,ES]
7-PM1B	EE-364472	TUNING UNIT UBH16 12CH 203 [EK,EK(Y1)]
7-PM1C	EE-364670	TUNING UNIT UBH050027A EA14CH203 [EZ]

8. FUNCTION PC BOARD

REF. NO.	PART NO.	DESCRIPTION
8-IC1	EI-356370	IC LA7224
8-D1	ED-360409	D PHOT PN323B
8-D2	ED-344280	D SILICON H GMA-01-FY2 F05
8-SW1,2	ES-349474	SW TACT SKHHAM004A
8-VR1	EV-360410	VR ROTARY K091C0G0C 103
8-VR2	EV-360569	VR ROTARY K091C0G0C 104
8-VR3	EV-363358	VR ROTARY K091C0G0C 504
8-FL1	EO-356372	COIL TUN 1 038-332 38KHZ

9. PRE AMP PC BOARD

REF. NO.	PART NO.	DESCRIPTION
9-IC1	EI-352714	IC HA11752
9-TR1	ET-308141	TR 2SC2603 G F05
9-TR2to4	ET-347961	TR 2SD1012-V G F05
9-TR5	ET-361736	TR 2SC3576
9-D1	ED-344280	D SILICON H GMA-01-FY2 F05
9-L1	EO-357508	COIL FIX 1 LAL02 F05 151K
9-L2	EO-353902	COIL FIX 1 LAL02 F05 680K
9-L3,4	EO-330252	COIL FIX 1 EL0606SKI 101K
9-RL1	EQ-364207	RELAY SIGNAL G5E-V-H 1TR 5V

10. VIF BLOCK

REF. NO.	PART NO.	DESCRIPTION
	TUNER UNIT	
10-1A	EE-345115	TV TUNER TEED1-A04A [EG,EV-M]
10-1B	EE-345116	TV TUNER TEEB1-013A [EK,EK(Y1)]
10-1D	EE-352284	TV TUNER TEEZ1-020A [EZ]
10-1E	EE-345121	TV TUNER TEEZ1-015A [ES]

11. POWER SUPPLY PC BOARD

REF. NO.	PART NO.	DESCRIPTION
11-TR1	ET-364153	TR 2SC3246 J,K F05
11-D1,2	ED-363350	D SILICON S5566B
11-D3to6	ED-363351	⚠ D SILICON DSA17C
11-D7to10	ED-363350	⚠ D SILICON S5566B
11-FR1	ER-364508	⚠ R FUSE ERQ-12H F17 1/2W R56K
11-FR2	ER-362257	⚠ R FUSE ERQ-12H F17 1/2W R47K
11-FR3	ER-365157	⚠ R FUSE H F10 ERQ-14LE 1/4W R43K
11-FR5	ER-200595	⚠ R FUSE ERD2FC S10 1/4W 5R6J
11-C2	EC-363490	C EC V CUT SME 222M 16.0DC
11-C3,4	EC-363491	C EC V CUT SME 222M 25.0DC
11-C5	EC-361942	⚠ C CE V V 103Z 400AC
11-T901A	BT-363353	⚠ TRANS POWER V47EG [EG]
11-T901B	BT-363945	⚠ TRANS POWER V47EK [EK,EK(Y1)]
11-T901D	BT-363946	⚠ TRANS POWER V47EV-M [EV-M]
11-T901E	BT-363950	⚠ TRANS POWER V47EZ [EZ]
11-T901F	BT-363949	⚠ TRANS POWER V47ES [ES]
11-F1A	EF-623103	⚠ FUSE SEMKO T 1.00A 250V [EG,EZ,ES]
11-F2A	EF-601301	⚠ FUSE SEMKO T 2.00A 250V [EG,EV-M,EZ,ES]
11-F1B	EF-355226	⚠ FUSE BET T 1.00A 250V [EK,EK(Y1)]
11-F2B	EF-355398	⚠ FUSE BET T 2.00A 250V [EK,EK(Y1)]

12. EVM PC BOARD

REF. NO.	PART NO.	DESCRIPTION
12-SW901	ES-354430	⚠ SW SLIDE 00220950 02-02-2N [EG,EK,EV-M,ES]
12-SF1	EZ-362247	⚠ CIRCUIT PROTECTOR TBC6211-21-0442 [EV-M]

13. SENSOR REEL PC BOARD

REF. NO.	PART NO.	DESCRIPTION
13-PH1	ET-361463	PHOT SENSOR ON2170 Q,R

14. SENSOR (L) PC BOARD

REF. NO.	PART NO.	DESCRIPTION
14-TR1	ET-361490	TR PHOT PN268 R,S

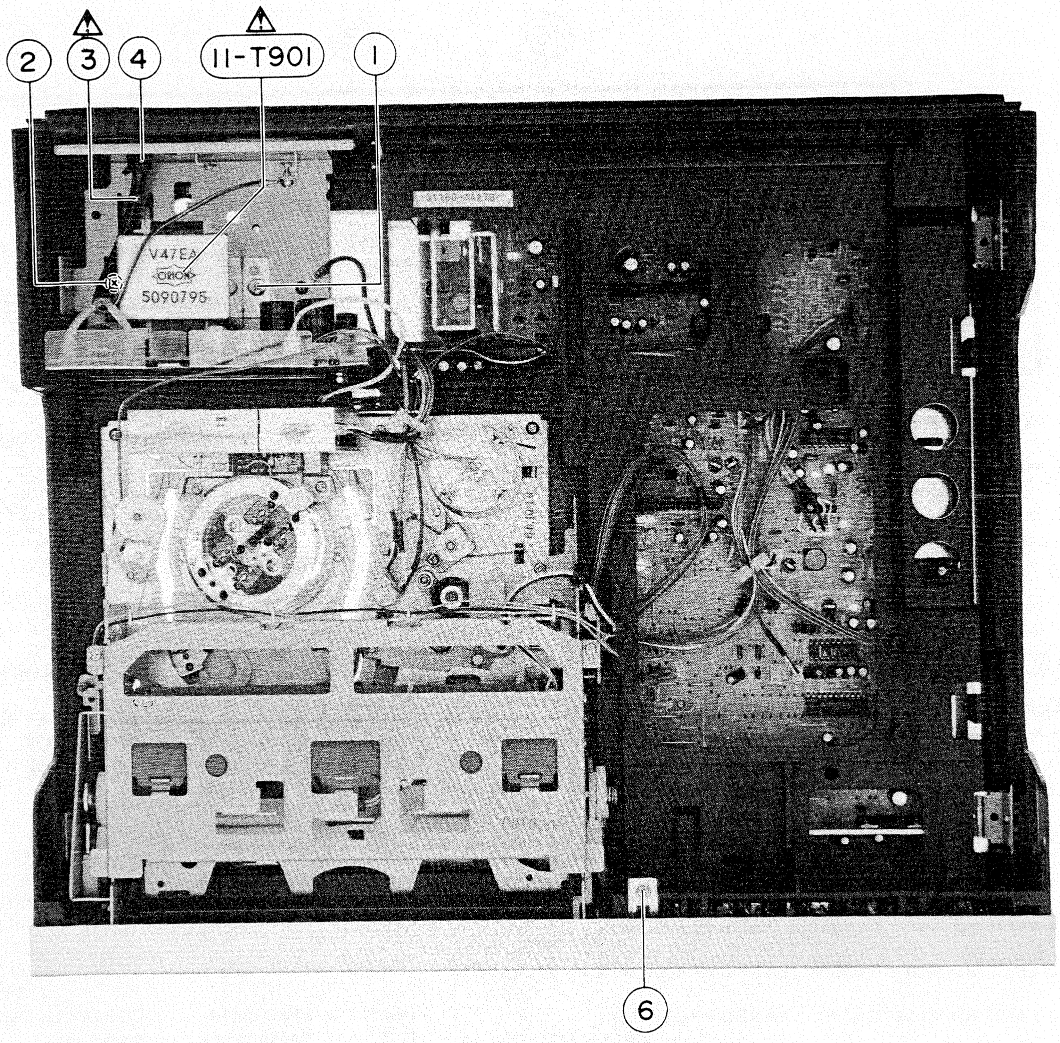
15. SENSOR (R) PC BOARD

REF. NO.	PART NO.	DESCRIPTION
15-TR1	ET-361490	TR PHOT PN268 R,S

16. SWITCH (EJ) PC BOARD

REF. NO.	PART NO.	DESCRIPTION
16-SW1	ES-353622	SW PUSH EVQ-WU7001 02-2

ASSEMBLY BLOCK

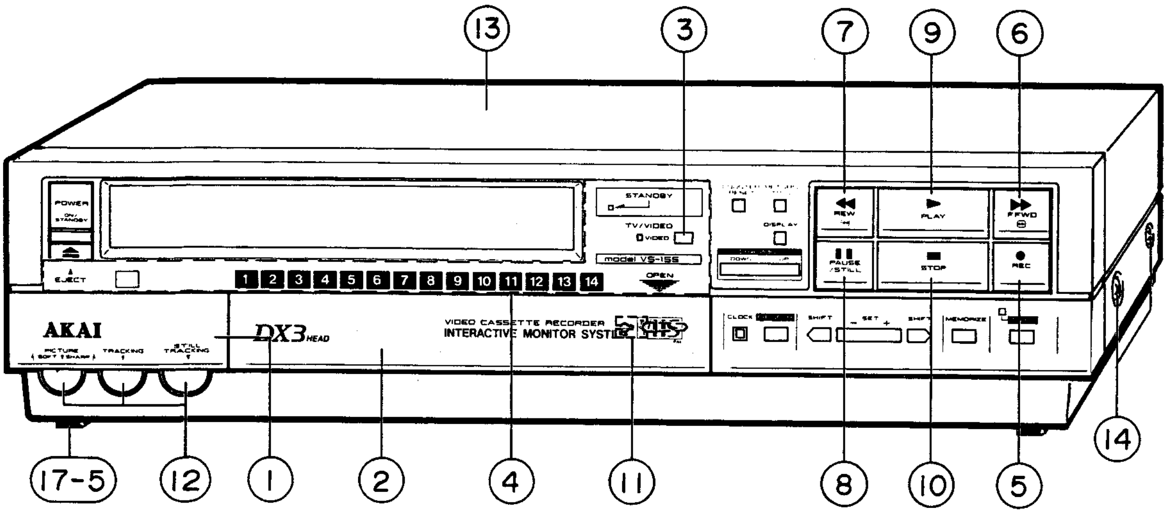


17. ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION
	ASSEMBLY BLOCK	
17-1	ZS-357936	DELL TIGHT BID40x08 STL NI3 [TRANS POWER FIX]
17-2	ZS-363912	PLX BR40x10STL CMT [TRANS POWER FIX]
17-3A	EW-364043	⚠ AC CORD 2 CORES KP419C, LTCE2F-CB EV [EG,EV-M,ES]
17-3B	EW-364044	⚠ AC CORD 2 CORES NRBS, LC2x0.75-CB B [EK,EK(Y1)]
17-3C	EW-364428	⚠ AC CORD 3 CORES VM-0418, 3x0.75 S [EZ]
17-4	EZ-692908	STRAIN RELIEF SR-5N-4 [EZ]

REF. NO.	PART NO.	DESCRIPTION
17-5x	SA-353927B	FOOT (2)
17-6	ZS-357946	PLX PAN30x10STL CMT C080 [PANEL FRONT FIX]
	POWER SUPPLY PC BOARD	
11-T901A	BT-363353	⚠ TRANS POWER V47EG [EG]
11-T901B	BT-363945	⚠ TRANS POWER V47EK [EK,EK(Y1)]
11-T901D	BT-363946	⚠ TRANS POWER V47EV-M [EV-M]
11-T901E	BT-363950	⚠ TRANS POWER V47EZ [EZ]
11-T901F	BT-363949	⚠ TRANS POWER V47ES [ES]

FINAL ASSEMBLY BLOCK


13
3
7
9
6
POWER ON/STANDBY
EJECT
STANDBY
TV/VIDEO
VIDEO
model VS-155
OPEN
1 2 3 4 5 6 7 8 9 10 11 12 13 14
REW
PLAY
FFWD
PAUSE/STILL
STOP
REC
DISPLAY
AKAI
PICTURE SOFT SHARP
TRACKING
STILL TRACKING
DX3 HEAD
VIDEO CASSETTE RECORDER
INTERACTIVE MONITOR SYSTEM
VHS
CLOCK
SHIFT
SET
MEMORIZE
14
17-5
12
1
2
4
11
8
10
5

18. FINAL ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION
	PANEL FRONT BLOCK	
18-1A	BD-V1047C130A	PANEL FRONT BLK VS-155EG [EG]
18-1B	BD-V1047C130B	PANEL FRONT BLK VS-155EK [EK,EK(Y1)]
18-1D	BD-V1047C130F	PANEL FRONT BLK VS-155EV-M [EV-M]
18-1E	BD-V1047C130G	PANEL FRONT BLK VS-155EZ [EZ]
18-1F	BD-V1047C130H	PANEL FRONT BLK VS-155ES [ES]
18-1A-B	BD-V1047D130A	PANEL FRONT BLK VS-155EG-B [EG]
18-1B-B	BD-V1047D130B	PANEL FRONT BLK VS-155EK-B [EK,EK(Y1)]
18-1D-B	BD-V1047D130F	PANEL FRONT BLK VS-155EV-MB [EV-M]
18-1E-B	BD-V1047D130G	PANEL FRONT BLK VS-155EZ-B [EZ]
18-1F-B	BD-V1047D130H	PANEL FRONT BLK VS-155ES-B [ES]
18-2	SP-361332B	PANEL DOOR FRONT
18-2-B	SP-361332A	PANEL DOOR FRONT-B
18-3	SK-361297	KNOB TV/VIDEO [EV-M,EZ]
18-4A	SP-361338Q	PLATE DECORATION VS-155EG [EG]
18-4B	SP-361338R	PLATE DECORATION VS-155EK [EK,EK(Y1)]
18-4D	SP-361338Z	PLATE DECORATION VS-155EV-M [EV-M]
18-4E	SP-361338X	PLATE DECORATION VS-155EZ [EZ]
18-4F	SP-361338T	PLATE DECORATION VS-155ES [ES]
18-5	SK-B361325A	KNOB REC PART
18-5-B	SK-B361325B	KNOB REC-B PART
18-6	SK-B361327A	KNOB FF PART
18-6-B	SK-B361327B	KNOB FF-B PART
18-7	SK-B361328A	KNOB REW PART
18-7-B	SK-B361328B	KNOB REW-B PART
18-8	SK-B361329A	KNOB PAUSE PART
18-8-B	SK-B361329B	KNOB PAUSE-B PART
18-9	SK-B361330A	KNOB PLAY PART
18-9-B	SK-B361330B	KNOB PLAY-B PART
18-10	SK-361331A	KNOB STOP
18-10-B	SK-361331B	KNOB STOP-B
18-11	AV-361336	DRIVER
	ASSEMBLY BLOCK	
18-12	SK-361334	KNOB PICTURE TRACKING
18-13	BC-361486A	COVER UPPER
18-13-B	BC-361486B	COVER UPPER-B
18-14	ZS-357943	ST BID40x10STL NI3 SPECIAL [UPPER COVER FIX]
18-14-B	ZS-358696	ST BID40x10STL BNI SPECIAL [UPPER COVER FIX]
18-15x	EW-348414	CORD PAL [ANT CABLE]
17-5	SA-353927B	FOOT (2)

NOTE: PANEL FRONT BLK includes 18-2 to 18-11.

19. REMOTE CONTROL UNIT RC-V155

REF. NO.	PART NO.	DESCRIPTION
19-1A	AV-363357	REMOCON RC-V155B-E WIRELESS (T) [EG,EK,EK(Y1),ES]
19-1B	AV-363496	REMOCON RC-V155A-E WIRELESS(T) [EV-M,EZ]
19-1A-B	AV-363494	REMOCON RC-V155B-EB WIRELESS (T) [EG,EK,EK(Y1),ES]
19-1B-B	AV-363498	REMOCON RC-V155A-EB WIRELESS (T) [EV-M,EZ]
19-IC1	EI-749983	IC μPD1943G
19-TR1	ET-718040	TR 2SD1468
19-D2	ED-705414	D LED SL303A INFRARED
19-D3	ED-718039	D SILICON DAN201
19-X1	EI-749984	OSC CE KBR455BAT
19-2	SC-718041	COVER BATTERY
19-2-B	SC-718043	COVER BATTERY-B

INDEX

PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.
AV-361336	18-11	ED-344280	6-D211	ED-624903	7-D40	EO-353900	6-L15
AV-363357	19-1A	ED-344280	6-D212	ED-624903	7-D41	EO-353901	6-L20
AV-363494	19-1A-B	ED-344280	6-D402	ED-624903	7-D59	EO-353901	6-L29
AV-363496	19-1B	ED-344280	6-D403	ED-624903	7-D65	EO-353902	9-L2
AV-363498	19-1B-B	ED-344280	6-D404	ED-624903	7-D66	EO-354600	6-L12
BA-V1047A400D	5-3	ED-344280	6-D405	ED-624903	7-D70	EO-354600	6-L11
BA-V1047C300A	5-1A	ED-344280	6-D407	ED-624903	7-D18	EO-354600	6-L602
BA-V1047C300B	5-1B	ED-344280	6-D408	ED-624903	7-D58	EO-356372	8-FL1
BA-V1047C300D	5-1D	ED-344280	6-D601	ED-624903	7-D34	EO-356599	6-L3
BA-V1047C300E	5-1E	ED-344280	6-D602	ED-624903	7-D26	EO-356599	6-L21
BA-V1047C300F	5-1F	ED-344280	6-D604	ED-624903	7-D30	EO-356599	6-L24
BA-V1047C330A	5-2A	ED-344280	6-D605	ED-624903	7-D42	EO-357507	6-L4
BA-V1047C330B	5-2B	ED-344280	6-D606	ED-705414	19-D2	EO-357507	6-L5
BA-V1047C330C	5-2C	ED-344280	6-D609	ED-718039	19-D3	EO-357508	6-L25
BA-V1047C330D	5-2D	ED-344280	6-D610	EE-345115	10-1A	EO-357508	9-L1
BC-361486A	18-13	ED-344280	6-D703	EE-345116	10-1B	EO-360554	6-L19
BC-361486B	18-13-B	ED-344280	6-D704	EE-345121	10-1E	EO-360554	6-L601
BD-V1047C130A	18-1A	ED-344280	6-D705	EE-352284	10-1D	EO-360555	6-L8
BD-V1047C130B	18-1B	ED-344280	8-D2	EE-360405	7-PM1A	EO-360555	6-L7
BD-V1047C130F	18-1D	ED-344280	9-D1	EE-364472	7-PM1B	EO-360647	6-FL501
BD-V1047C130G	18-1E	ED-346609	6-D501	EE-364670	7-PM1C	EO-383308	6-L502
BD-V1047C130H	18-1F	ED-355607	7-D50	EF-344106	6-SF1	EO-420344	6-L501
BD-V1047D130A	18-1A-B	ED-355607	7-D52	EF-344106	6-SF201	EQ-364207	9-RL1
BD-V1047D130B	18-1B-B	ED-355607	7-D53	EF-355226	11-F1B	ER-200595	11-FR5
BD-V1047D130F	18-1D-B	ED-355607	7-D55	EF-355398	11-F2B	ER-337336	6-R518
BD-V1047D130G	18-1E-B	ED-355607	7-D56	EF-601301	11-F2A	ER-340542	6-R207
BD-V1047D130H	18-1F-B	ED-355607	7-D57	EF-623103	11-F1A	ER-348272	6-FR1
BF-B360531	3-10	ED-355607	7-D60	EH-347743	7-IB1	ER-353878	6-R463
BL-B360342	2-23	ED-356424	7-D1	EH-360337	6-FL2	ER-360559	6-R231
BL-B360530	2-24	ED-356424	7-D2	EH-360339	6-FL1	ER-362257	11-FR2
BL-B360353	2-7	ED-356424	7-D3	EH-360340	6-DL1	ER-364508	11-FR1
BL-B360361	2-21	ED-356424	7-D4	EH-360341	6-DL2	ER-365157	11-FR3
BL-B360486	2-31	ED-356424	7-D5	EH-364045	6-FL3	ES-349474	7-SW3
BL-B360522	2-35	ED-356424	7-D7	EI-337530	6-IC601	ES-349474	7-SW5
BL-B360525	2-33	ED-356424	7-D8	EI-347116	6-IC701	ES-349474	7-SW6
BL-B361308	4-17	ED-356424	7-D9	EI-347991	6-X401	ES-349474	7-SW7
BM-B361467	3-M903	ED-356424	7-D11	EI-352714	9-IC1	ES-349474	7-SW10
BM-M3223A020A	1-6	ED-356424	7-D12	EI-353421	6-IC402	ES-349474	7-SW9
BM-361544	3-M902	ED-356424	7-D13	EI-356238	6-IC403	ES-349474	7-SW13
BR-B360517A	3-27	ED-356424	7-D54	EI-356288	6-IC207	ES-349474	7-SW14
BR-B360517B	3-28	ED-356424	7-D6	EI-356370	8-IC1	ES-349474	7-SW15
BT-363353	11-T901A	ED-356424	7-D14	EI-356371	7-X1	ES-349474	7-SW17
BT-363945	11-T901B	ED-356424	7-D10	EI-358506	6-IC502	ES-349474	7-SW21
BT-363946	11-T901D	ED-357540	2-D1	EI-360333	6-IC1	ES-349474	7-SW20
BT-363949	11-T901F	ED-357754	6-D406	EI-360334	6-IC2	ES-349474	7-SW22
BT-363950	11-T901E	ED-360409	8-D1	EI-360396	6-IC404	ES-349474	7-SW8
BV-B362443	1-7	ED-362998	6-D202	EI-360404	7-IC2	ES-349474	7-SW18
BV-V1030A210A	1-1	ED-363350	11-D1	EI-360560	6-IC203	ES-349474	7-SW19
BV-V1030A220A	1-2	ED-363350	11-D2	EI-360561	6-IC202	ES-349474	7-SW16
BV-V1047A080A	2-16	ED-363350	11-D7	EI-360563	6-IC205	ES-349474	7-SW12
BV-V1047A090A	2-17	ED-363350	11-D8	EI-360564	6-IC206	ES-349474	7-SW11
BV-V1047A250A	4-1	ED-363350	11-D9	EI-360565	6-IC201	ES-349474	7-SW4
BV-V1047A900A	6-5A	ED-363350	11-D10	EI-360565	6-IC204	ES-349474	8-SW2
BV-V1047A900B	6-5B	ED-363351	11-D3	EI-360648	6-IC501	ES-349474	8-SW1
BV-V1047A900E	6-5D	ED-363351	11-D4	EI-363347	6-IC405	ES-353622	16-SW1
BV-V1047A900F	6-5E	ED-363351	11-D5	EI-364135	7-IC1	ES-354430	12-SW901
BV-363231	6-3A	ED-363351	11-D6	EI-364562	6-X1	ES-360408	7-SW1
BV-363232	6-3B	ED-365109	6-D701	EI-366681	6-IC401	ES-360433	2-SW1
BV-363234	6-3D	ED-624903	6-D2	EI-749983	19-IC1	ES-361479	3-SW2
EC-200948	6-C236	ED-624903	7-D38	EI-749984	19-X1	ET-308141	6-TR420
EC-307793	6-C2	ED-624903	7-D15	EJ-363366	6-1A	ET-308141	6-TR7
EC-337966	6-C522	ED-624903	7-D16	EJ-363367	6-1B	ET-308141	6-TR8
EC-358805	6-C610	ED-624903	7-D17	EJ-363368	6-1D	ET-308141	6-TR10
EC-361942	11-C5	ED-624903	7-D19	EJ-363369	6-1C	ET-308141	6-TR12
EC-363490	11-C2	ED-624903	7-D20	EL-363355	4-IN901	ET-308141	6-TR18
EC-363491	11-C4	ED-624903	7-D21	EO-330252	6-L1	ET-308141	6-TR19
EC-363491	11-C3	ED-624903	7-D22	EO-330252	6-L6	ET-308141	6-TR20
ED-305706	6-D702	ED-624903	7-D23	EO-330252	6-L13	ET-308141	6-TR21
ED-313846	6-D201	ED-624903	7-D24	EO-330252	6-L14	ET-308141	6-TR23
ED-329051	6-D409	ED-624903	7-D25	EO-330252	6-L17	ET-308141	6-TR31
ED-337266	6-D603	ED-624903	7-D27	EO-330252	6-L22	ET-308141	6-TR201
ED-337266	5-D608	ED-624903	7-D28	EO-330252	9-L4	ET-308141	6-TR205
ED-344280	6-D1	ED-624903	7-D29	EO-330252	9-L3	ET-308141	6-TR207
ED-344280	6-D3	ED-624903	7-D31	EO-345889	6-L18	ET-308141	6-TR208
ED-344280	6-D4	ED-624903	7-D32	EO-351865	6-L2	ET-308141	6-TR216
ED-344280	6-D5	ED-624903	7-D33	EO-351868	6-L9	ET-308141	6-TR4
ED-344280	6-D203	ED-624903	7-D35	EO-351868	6-L10	ET-308141	6-TR501
ED-344280	6-D204	ED-624903	7-D36	EO-351868	6-L16	ET-308141	6-TR601
ED-344280	6-D205	ED-624903	7-D37	EO-351869	6-L26	ET-308141	6-TR602
ED-344280	6-D210	ED-624903	7-D39	EO-351869	6-L28	ET-308141	6-TR611

INDEX

PART NO.	REF. NO.
ET-308141	6-TR13
ET-308141	6-TR11
ET-308141	7-TR2
ET-308141	7-TR3
ET-308141	7-TR4
ET-308141	7-TR6
ET-308141	7-TR7
ET-308141	7-TR8
ET-308141	7-TR10
ET-308141	7-TR11
ET-308141	7-TR15
ET-308141	7-TR9
ET-308141	7-TR12
ET-308141	7-TR1
ET-308141	7-TR13
ET-308141	7-TR5
ET-308141	9-TR1
ET-308472	6-TR5
ET-308472	6-TR1
ET-308472	6-TR9
ET-308472	6-TR3
ET-308472	6-TR418
ET-308472	6-TR206
ET-308472	6-TR212
ET-308472	6-TR213
ET-308472	6-TR403
ET-308472	6-TR411
ET-308472	6-TR414
ET-308472	6-TR416
ET-308472	6-TR417
ET-308472	6-TR605
ET-308472	6-TR606
ET-308472	6-TR607
ET-308472	6-TR2
ET-308472	6-TR22
ET-308472	6-TR6
ET-308472	6-TR14
ET-321644	6-TR604
ET-322598	6-TR204
ET-347961	9-TR4
ET-347961	9-TR3
ET-347961	9-TR2
ET-349882	6-TR609
ET-349882	6-TR608
ET-353897	6-TR26
ET-353897	6-TR29
ET-353897	6-TR30
ET-353897	6-TR214
ET-353897	6-TR215
ET-354365	6-TR203
ET-354371	6-TR401
ET-354371	6-TR408
ET-354414	6-TR38
ET-354414	6-TR28
ET-354414	6-TR24
ET-354414	6-TR210
ET-354414	6-TR502
ET-354415	6-TR27
ET-355669	6-TR402
ET-356224	6-TR16
ET-356224	6-TR603
ET-356224	6-TR202
ET-356224	6-TR613
ET-356224	6-TR703
ET-356224	6-TR15
ET-356224	6-TR17
ET-356236	6-TR612
ET-360399	6-TR211
ET-360400	6-TR404
ET-360400	6-TR405
ET-360401	6-TR410
ET-360646	6-TR503
ET-361463	13-PH1
ET-361463	13-PH1
ET-361490	14-TR1
ET-361490	15-TR1
ET-361729	6-TR25
ET-361729	6-TR32
ET-361736	9-TR5
ET-363359	6-TR419
ET-363359	6-TR702
ET-363359	6-TR701
ET-363953	6-TR407
ET-363953	6-TR406
ET-364040	6-TR413
ET-364060	7-TR14
ET-364153	11-TR1
ET-718040	19-TR1
EV-356322	7-VR1
EV-356575	6-VR2
EV-356577	6-VR501
EV-356579	6-VR1
EV-356582	6-VR202
EV-356582	6-VR602
EV-358862	6-VR203
EV-360410	8-VR1
EV-360569	8-VR2
EV-363358	8-VR3
EV-363511	6-VR401
EV-366436	6-VR201
EV-366437	6-VR701
EW-348414	18-15x
EW-364043	17-3A
EW-364044	17-3B
EW-364428	17-3C
EX-361672	1-TH901
EZ-200473	6-6
EZ-362247	12-SF1
EZ-692908	17-4
HE-361456	2-H902
HR-361454	2-H901
MB-360533	3-13
MB-360534	3-12
MB-364011	3-22
MB-366733	3-44
ML-B360460	3-42
ML-B360519	3-34
ML-B360520	3-35
ML-B366615	3-41
ML-B366735	3-40
ML-360634	4-20
ML-360635	4-21
ML-361316	4-19
ML-366736	3-8
ML-366738	3-45
MP-361543	2-11
MR-360432	3-19
MR-361310	4-3
MR-361311	4-4
MR-361312	4-5
MR-364010	3-15
MR-364335	2-27
MS-362181	2-5
MS-364796	2-3
MS-364797	2-4
MZ-B360425	3-43
MZ-B360528	3-1
MZ-B360642	4-2
MZ-B362281	2-26
MZ-B366734	3-31
MZ-360384	3-23
MZ-360385	3-26
MZ-360440	3-18
MZ-360453	3-14
MZ-360477	3-39
MZ-360638	4-14
MZ-360639	4-12
MZ-360640	4-11
MZ-361313	4-9
MZ-361314	4-8
MZ-366960	3-29
MZ-364676	3-6
MZ-364677	3-5
SA-353927B	17-5
SC-718041	19-2
SC-718043	19-2-B
SE-361317	4-24
SK-B361325A	18-5
SK-B361325B	18-5-B
SK-B361327A	18-6
SK-B361327B	18-6-B
SK-B361328A	18-7
SK-B361328B	18-7-B
SK-B361329A	18-8
SK-B361329B	18-8-B
SK-B361330A	18-9
SK-B361330B	18-9-B
SK-361297	18-3
SK-361331A	18-10
SK-361331B	18-10-B
SK-361334	18-12
SP-361332A	18-2-B
SP-361332B	18-2
SP-361338Q	18-4A
SP-361338R	18-4B
SP-361338T	18-4F
SP-361338X	18-4E
SP-361338Z	18-4D
SP-364666	4-22
SZ-360607	4-6
VT-360148	2-18
VT-361452	1-8
VT-363354	3-25
ZG-313258	2-30
ZG-321731	2-25
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ZG-358212	4-16
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ZG-360613	4-15
ZG-360614	4-13
ZG-360615	4-10
ZG-360616	4-23
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ZG-364337	2-36
ZG-364338	2-32
ZG-364339	2-34
ZS-321729	2-19
ZS-328607	2-20
ZS-353965	6-2
ZS-354332	1-4
ZS-357936	17-1
ZS-357943	18-14
ZS-357946	17-6
ZS-358696	18-14-B
ZS-360372	2-1
ZS-360391	2-37
ZS-362241	1-3
ZS-363459	6-4
ZS-363912	17-2
ZS-379350	3-2
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ZS-422076	3-9
ZS-422076	3-11
ZS-432843	1-5
ZS-460440	2-29
ZS-477876	2-12
ZS-608095	2-6
ZW-270101	2-13
ZW-270101	3-7
ZW-350839	2-9
ZW-354859	2-10
ZW-356657	3-21
ZW-357164	3-4
ZW-357164	4-18
ZW-360479	3-16
ZW-360539	3-38
ZW-360541	3-36
ZW-361458	2-28
ZW-361458	3-20
ZW-410051	3-3

AKAI

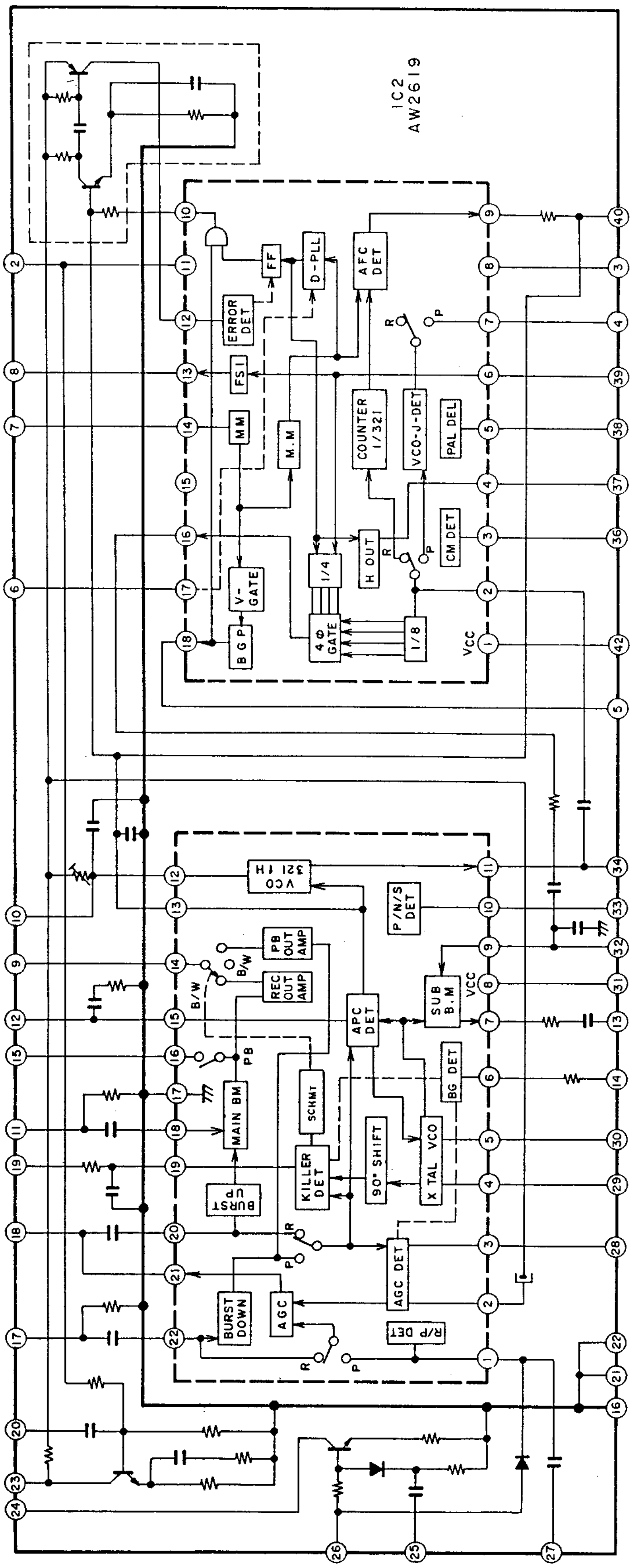
MODEL VS-155EG/EK/ES/EV-M/EZ

SCHEMATIC DIAGRAM AND PC BOARDS

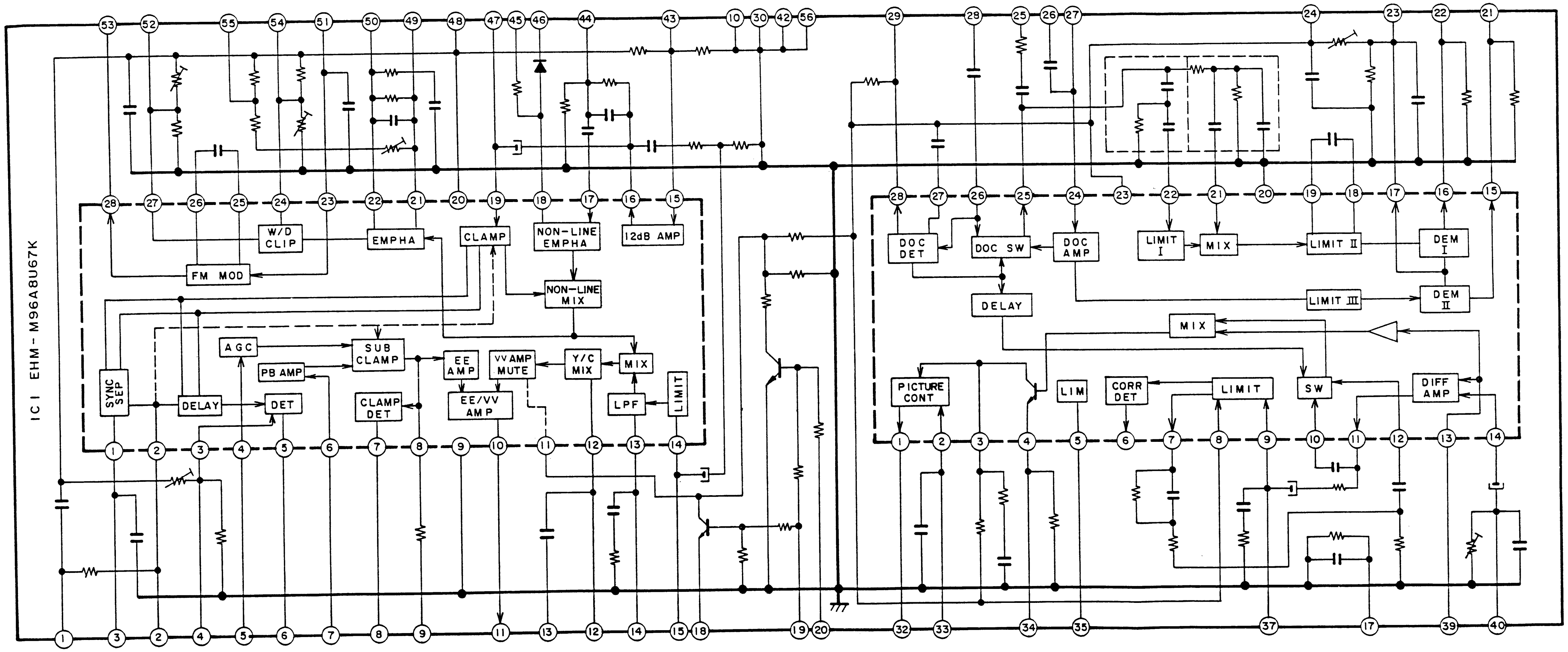
TABLE OF CONTENTS

1. SCHEMATIC DIAGRAM OF ICs 2
2. POWER SUPPLY BLOCK DIAGRAM 7
3. AUDIO BLOCK DIAGRAM 8
4. SYSTEM BLOCK DIAGRAM 9
5. SERVO BLOCK DIAGRAM 10
6. VIDEO BLOCK DIAGRAM 11
7. CONNECTION DIAGRAM 12
8. POWER PC BOARD AND OTHER PC BOARDS 13
9. MAIN SCHEMATIC DIAGRAM 14
10. MAIN PC BOARD 15
11. VS-155EG/ES/EV-M/EZ OPERATION SCHEMATIC DIAGRAM 16
12. VS-155EG/ES/EV-M/EZ OPERATION PC BOARD 17
13. VS-155EK OPERATION SCHEMATIC DIAGRAM 18
14. VS-155EK OPERATION PC BOARD 19
15. PRE AMP SCHEMATIC DIAGRAM 20
16. PRE AMP PC BOARD AND HEAD SUB PC BOARD 20
17. VIF UNIT SCHEMATIC DIAGRAM 21
18. REMOTE CONTROL UNIT SCHEMATIC DIAGRAM 22

AW2619 [VIDEO (CHROMA) SIGNAL IC]

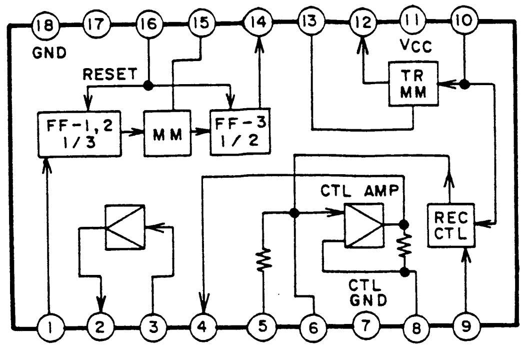

IC2
AW2619
ERROR DET
FF
D-PLL
AFC DET
FS1
MM
M.M
COUNTER 1/321
VCO-J-DET
PAL DEL
CM DET
H OUT
1/4
4Φ GATE
1/8
V-GATE
BGP
VCC
R
P
VCO 321 1H
P/N/S DET
PB OUT AMP
REC OUT AMP
B/W
SUB B.M
APC DET
BG DET
SCHMT
MAIN BM
PB
KILLER DET
90° SHIFT
X TAL VCO
BURST UP
AGC DET
BURST DOWN
AGC
R/P DET

EHM-M96A8U67K [VIDEO (Y) SIGNAL IC]



IC1 EHM-M96A8U67K
W/D CLIP
EMPHA
CLAMP
NON-LINE EMPHA
12dB AMP
FM MOD
NON-LINE MIX
AGC
SUB CLAMP
PB AMP
EE AMP
VV AMP MUTE
Y/C MIX
MIX
SYNC SEP
DELAY
DET
CLAMP DET
EE/VV AMP
LPF
LIMIT
DOC DET
DOC SW
DOC AMP
LIMIT I
MIX
LIMIT II
DEM I
DELAY
LIMIT III
DEM II
MIX
PICTURE CONT
LIM
CORR DET
LIMIT
SW
DIFF AMP

AN3792 (DRUM SERVO INTERFACE IC)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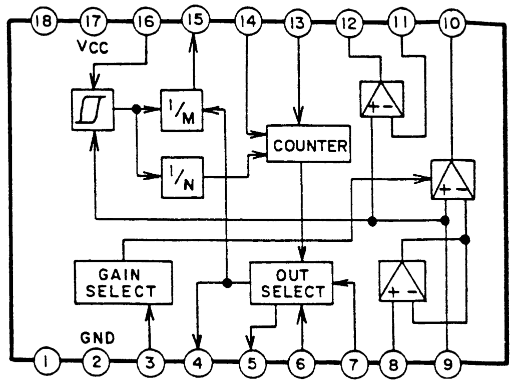
17
16
15
14
13
12
11
10
GND
RESET
VCC
TR MM
FF-1,2 1/3
MM
FF-3 1/2
CTL AMP
REC CTL
CTL GND
1
2
3
4
5
6
7
8
9

AN3794 (CAPSTAN SERVO INTERFACE IC)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16
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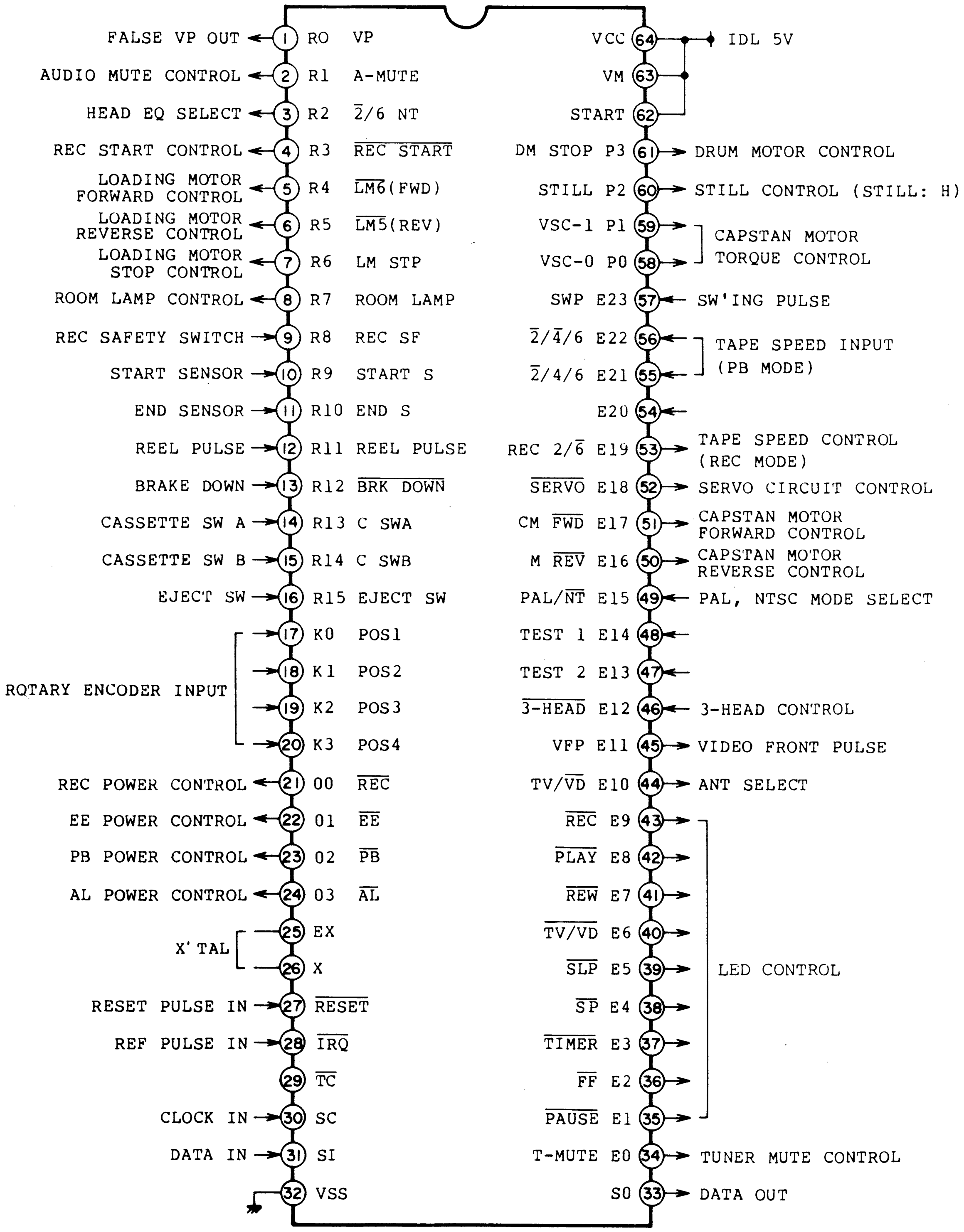
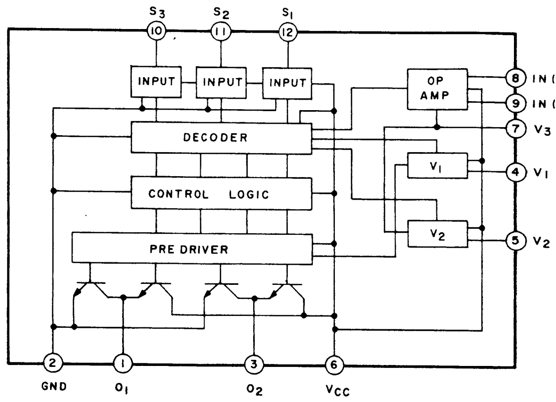
14
13
12
11
10
VCC
1/M
1/N
COUNTER
GAIN SELECT
OUT SELECT
GND
1
2
3
4
5
6
7
8
9

MB88521-135M (SYSCON MPU)

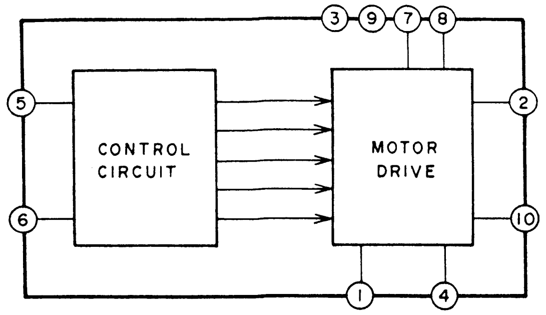

FALSE VP OUT
1
R0
VP
AUDIO MUTE CONTROL
2
R1
A-MUTE
HEAD EQ SELECT
3
R2
2/6 NT
REC START CONTROL
4
R3
REC START
LOADING MOTOR FORWARD CONTROL
5
R4
LM6(FWD)
LOADING MOTOR REVERSE CONTROL
6
R5
LM5(REV)
LOADING MOTOR STOP CONTROL
7
R6
LM STP
ROOM LAMP CONTROL
8
R7
ROOM LAMP
REC SAFETY SWITCH
9
R8
REC SF
START SENSOR
10
R9
START S
END SENSOR
11
R10
END S
REEL PULSE
12
R11
REEL PULSE
BRAKE DOWN
13
R12
BRK DOWN
CASSETTE SW A
14
R13
C SWA
CASSETTE SW B
15
R14
C SWB
EJECT SW
16
R15
EJECT SW
ROTARY ENCODER INPUT
17
K0
POS1
18
K1
POS2
19
K2
POS3
20
K3
POS4
REC POWER CONTROL
21
00
REC
EE POWER CONTROL
22
01
EE
PB POWER CONTROL
23
02
PB
AL POWER CONTROL
24
03
AL
X' TAL
25
EX
26
X
RESET PULSE IN
27
RESET
REF PULSE IN
28
IRQ
29
TC
CLOCK IN
30
SC
DATA IN
31
SI
32
VSS
VCC
64
IDL 5V
VM
63
START
62
DM STOP P3
61
DRUM MOTOR CONTROL
STILL P2
60
STILL CONTROL (STILL: H)
VSC-1 P1
59
VSC-0 P0
58
CAPSTAN MOTOR TORQUE CONTROL
SWP E23
57
SW'ING PULSE
2/4/6 E22
56
2/4/6 E21
55
TAPE SPEED INPUT (PB MODE)
E20
54
REC 2/6 E19
53
TAPE SPEED CONTROL (REC MODE)
SERVO E18
52
SERVO CIRCUIT CONTROL
CM FWD E17
51
CAPSTAN MOTOR FORWARD CONTROL
M REV E16
50
CAPSTAN MOTOR REVERSE CONTROL
PAL/NT E15
49
PAL, NTSC MODE SELECT
TEST 1 E14
48
TEST 2 E13
47
3-HEAD E12
46
3-HEAD CONTROL
VFP E11
45
VIDEO FRONT PULSE
TV/VD E10
44
ANT SELECT
REC E9
43
PLAY E8
42
REW E7
41
TV/VD E6
40
SLP E5
39
SP E4
38
TIMER E3
37
FF E2
36
PAUSE E1
35
LED CONTROL
T-MUTE E0
34
TUNER MUTE CONTROL
S0
33
DATA OUT

M54548L (CAPSTAN DRIVE IC)


S3
S2
S1
10
11
12
INPUT
INPUT
INPUT
OP AMP
8
IN (+)
9
IN (-)
7
V3
DECODER
V1
4
V1
CONTROL LOGIC
V2
5
V2
PRE DRIVER
2
1
3
6
GND
O1
O2
Vcc

INPUT			OUTPUT		Vcc SELECT	MODE
S_1	S_2	S_3	$\bar{O}_1$	$\bar{O}_2$		
L	L	L	"OFF" state	"OFF" state	–	STOP
L	L	H	H	L	Vs	PLAY (+)
L	H	L	L	H	Vs	PLAY (–)
L	H	H	H	L	V_2	FF (2)
H	L	L	L	H	V_2	REW (2)
H	L	H	H	L	V_1	FF (1)
H	H	L	L	H	V_1	REW (1)
H	H	H	L	L	Vs	BRAKE

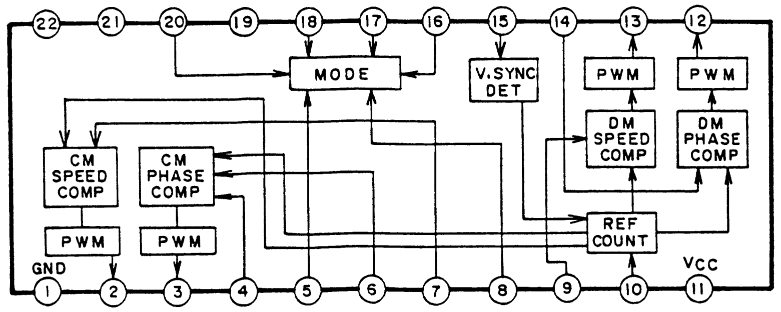
BA6229 (MOTOR DRIVER)


3
9
7
8
5
2
CONTROL CIRCUIT
MOTOR DRIVE
6
10
1
4

CONTROL MODE

MODE	INPUT		OUTPUT	
	5pin	6pin	2pin	10pin
STOP	L	L	OPEN	OPEN
NORMAL	H	L	H	L
REVERSE	L	H	L	H
BRAKE	H	H	L	L

MN6178XAL (DIGITAL SERVO IC)


22
21
20
19
18
17
16
15
14
13
12
MODE
V.SYNC DET
PWM
PWM
DM SPEED COMP
DM PHASE COMP
CM SPEED COMP
CM PHASE COMP
REF COUNT
PWM
PWM
GND
VCC
1
2
3
4
5
6
7
8
9
10
11

MB88521-135M

Pin No.	Port Name	I/O	Active	Description
1	VP	O	⎺⎽⎺	False V Sync Out on Trick Mode (CUE, REVIEW, STILL)
2	A–MUTE	O	H	Audio Mute Control
3	$\overline{2}$/6 NT	O	L/H	EQ SELECT CONTROL (NTSC ONLY) L: SP H: SLP
4	REC START	O	L	REC START CONTROL
5 6 7	LM6 (FWD) LM5 (REV) LM STP	O O O	L L L	LOADING MOTOR FORWARD CONTROL LOADING MOTOR REVERSE CONTROL LOADING MOTOR STOP CONTROL

MODE \ TERMINAL	⑤ LM6 (FWD)	⑥ LM5 (REV)	⑦ LM STP
FWD	L	H	L
REV	H	L	L
STOP	H	H	H

Pin No.	Port Name	I/O	Active	Description
8	ROOM LAMP	O	H	ROOM LAMP CONTROL PB, REC AND EJECT MODE: ROOM LAMP OFF
9	REC SF	I		REC SAFTY SW IN L: ACCEPT REC H: NOT ACCEPT REC
10	START S	I		START SENSOR IN
11	END S	I		END SENSOR IN
12	REEL PULSE	I	⎽⎺⎽⎺⎽	REEL PULSE IN
13	BRK DOWN	I		BRAKE DOWN IN L: BRAKE DOWN
14	C SW A	I		CASSETTE SW A H: CASSETTE IN
15	C SW B	I		CASSETTE SW B L: CASSETTE IN
16	EJECT SW	I		EJECT SW H: EJECT
17 18 19 20	POS 1 POS 2 POS 3 POS 4	I I I I		ROTARY ENCODER DATA IN
21 22 23 24	REC EE PB AL	O O O O	L L L L	REC POWER CONTROL EE POWER CONTROL PB POWER CONTROL AL POWER CONTROL
25 26	EX X			X'TAL
27	RESET	I	L	RESET PULSE IN
28	IRQ	I	⎺⎽	REF PULSE (of VP OUT) IN
29	TC			NC
30	SC	I	⎺⎽⎺⎽⎺	CLOCK IN
31	SI	I	⎺⎽⎺⎽⎺	DATA IN (FROM OPERATION MPU)
32	VSS			GND
33	SO	O	⎺⎽⎺⎽⎺	DATA OUT (TO OPERATION MPU)
34	T-MUTE	O	H	TUNER MUTE CONTROL
35	PAUSE	O	L	PAUSE LED CONTROL
36	FF	O	L	FF LED CONTROL
37	TIMER	O	L	TIMER LED CONTROL
38	SP	O	L	SP LED CONTROL
39	SLP	O	L	SLP LED CONTROL
40	TV/VD	O	L	TV/VIDEO LED CONTROL
41	REW	O	L	REW LED CONTROL
42	PLAY	O	L	PLAY LED CONTROL
43	REC	O	L	REC LED CONTROL
44	TV/VD	O	L/H	ANT SELECT CONTROL H: TV L: VIDEO
45	VFP	O	L	VIDEO FRONT PULSE
46	3-HEAD	I	L	(3-HEAD MODEL ONLY)
47	TEST 1	I	L	
48	TEST 2	I	L	

Pin No.	Port Name	I/O	Active	Description
49	PAL/$\overline{NT}$	I	H/L	PAL, NTSC SELECT H : PAL L : NTSC
50 51	CM REV CM FWD	O O	L L	CAPSTAN MOTOR REVERSE CONTROL CAPSTAN MOTOR FORWARD CONTROL

TERMINAL / MODE	(51) CM DWD	㊿ CM REV
FWD	L	H
REV	H	L
STOP	H	H

Pin No.	Port Name	I/O	Active	Description
52	SERVO	O	L	SERVO CIRCUIT CONTROL
53	REC $2/\overline{6}$	O	H/L	TAPE SPEED CONTROL (REC MODE) H : SP L : SLP
54				NC
55 56	$\overline{2}/4/6$ $\overline{2}/\overline{4}/6$	I I		TAPE SPEED CONTROL (PB MODE)

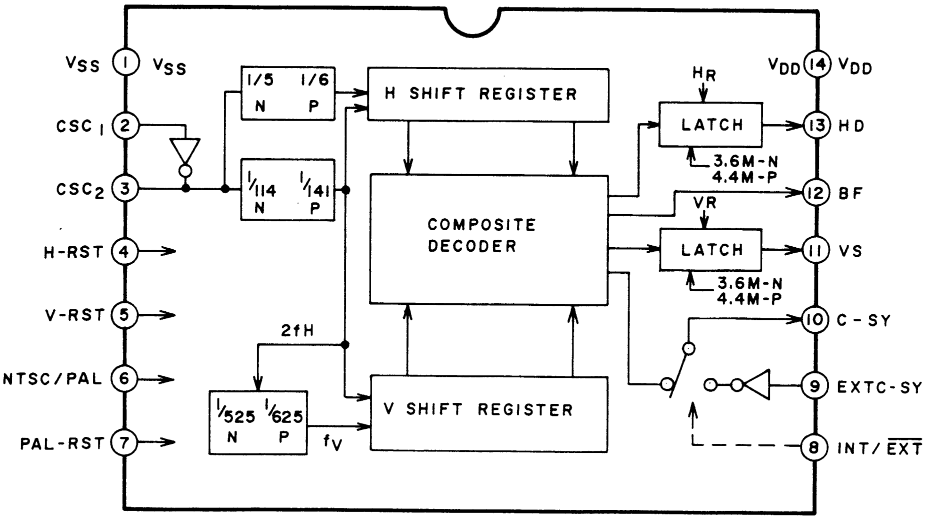
TERMINAL / TAPE SPEED	(55) $\overline{2}/4/6$	(56) $\overline{2}/\overline{4}/6$
SP	L	L
LP	H	L
SLP	H	H

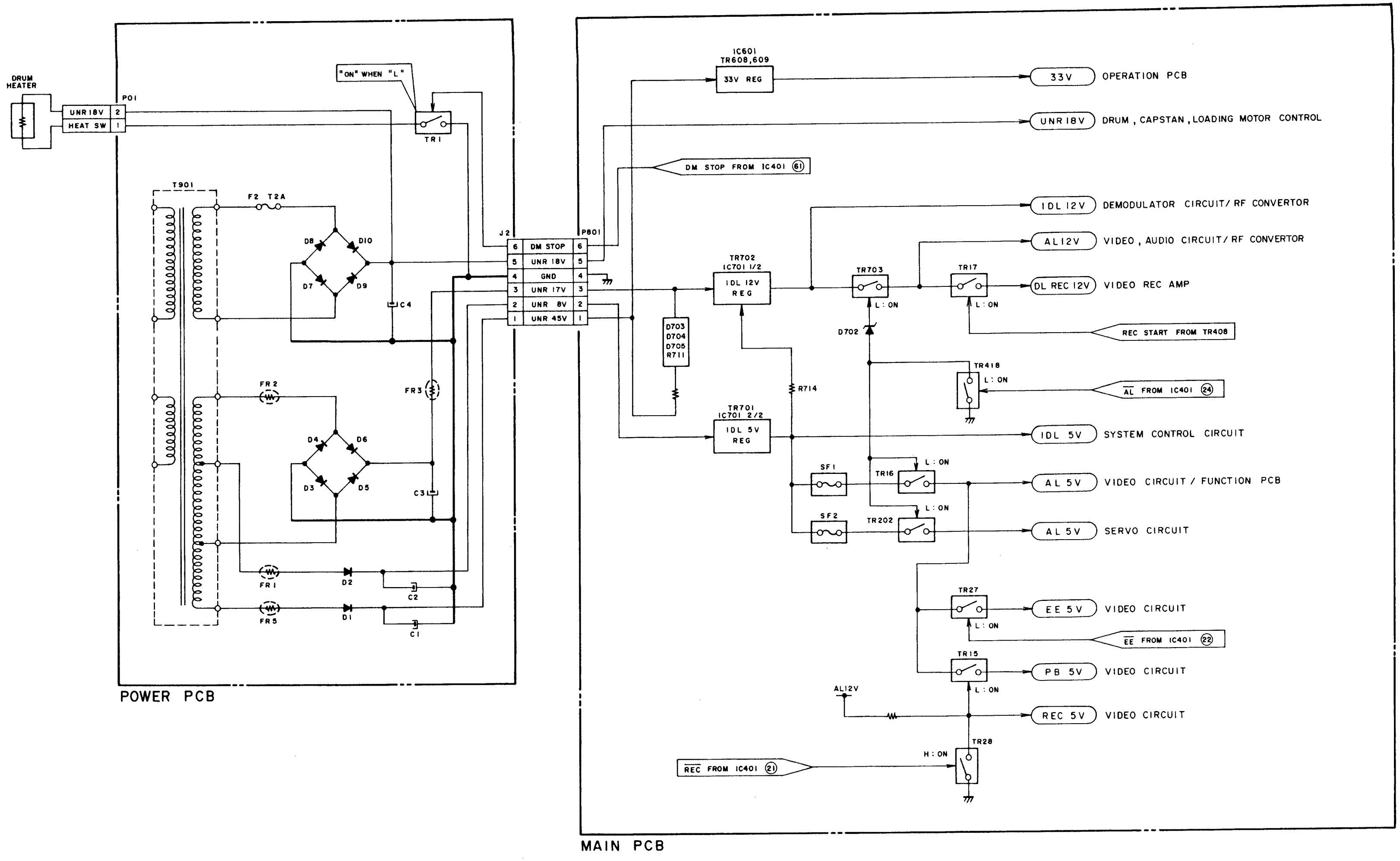
Pin No.	Port Name	I/O	Active	Description
57	SWP	I	⊔⊓	SWITCHING PULSE IN
58 59	VSC-0 VSC-1	O O	H/L H/L	CAPSTAN MOTOR TORQUE CONTROL

CONTROL / MODE	VSC-0	VSC-1	SERVO	CM FWD	CM REV
PLAY	H	L	L	L	H
CUE	H	H	L	L	H
REVIEW	H	H	L	H	L
STILL	H	H	H	H	H
FF	H	H	H	L	H
REW	H	H	H	H	L

Pin No.	Port Name	I/O	Active	Description
60 61	STILL DM STP	O O	H L	STILL CONTROL STILL : H DRUM MOTOR CONTROL
62 63 64	START VM VCC			+5V

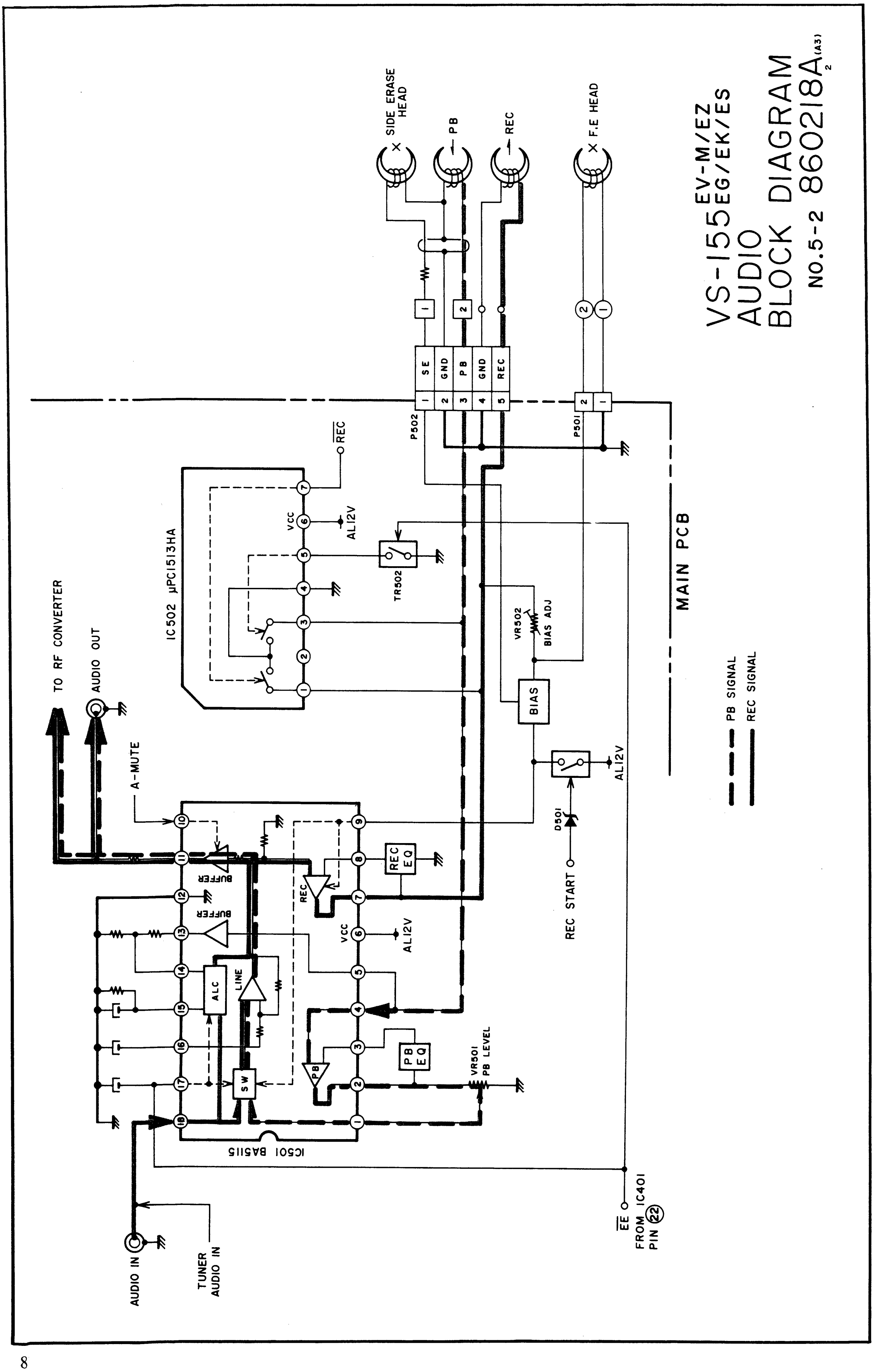
TC9018P (TV SYNC GENERATOR)


VSS ① VSS
CSC1 ②
CSC2 ③
H-RST ④
V-RST ⑤
NTSC/PAL ⑥
PAL-RST ⑦
1/5 1/6 N P
1/114 1/141 N P
H SHIFT REGISTER
COMPOSITE DECODER
V SHIFT REGISTER
2fH
1/525 1/625 N P
fV
HR
LATCH
3.6M-N 4.4M-P
VR
LATCH
3.6M-N 4.4M-P
VDD ⑭ VDD
⑬ HD
⑫ BF
⑪ VS
⑩ C-SY
⑨ EXTC-SY
⑧ INT/$\overline{EXT}$

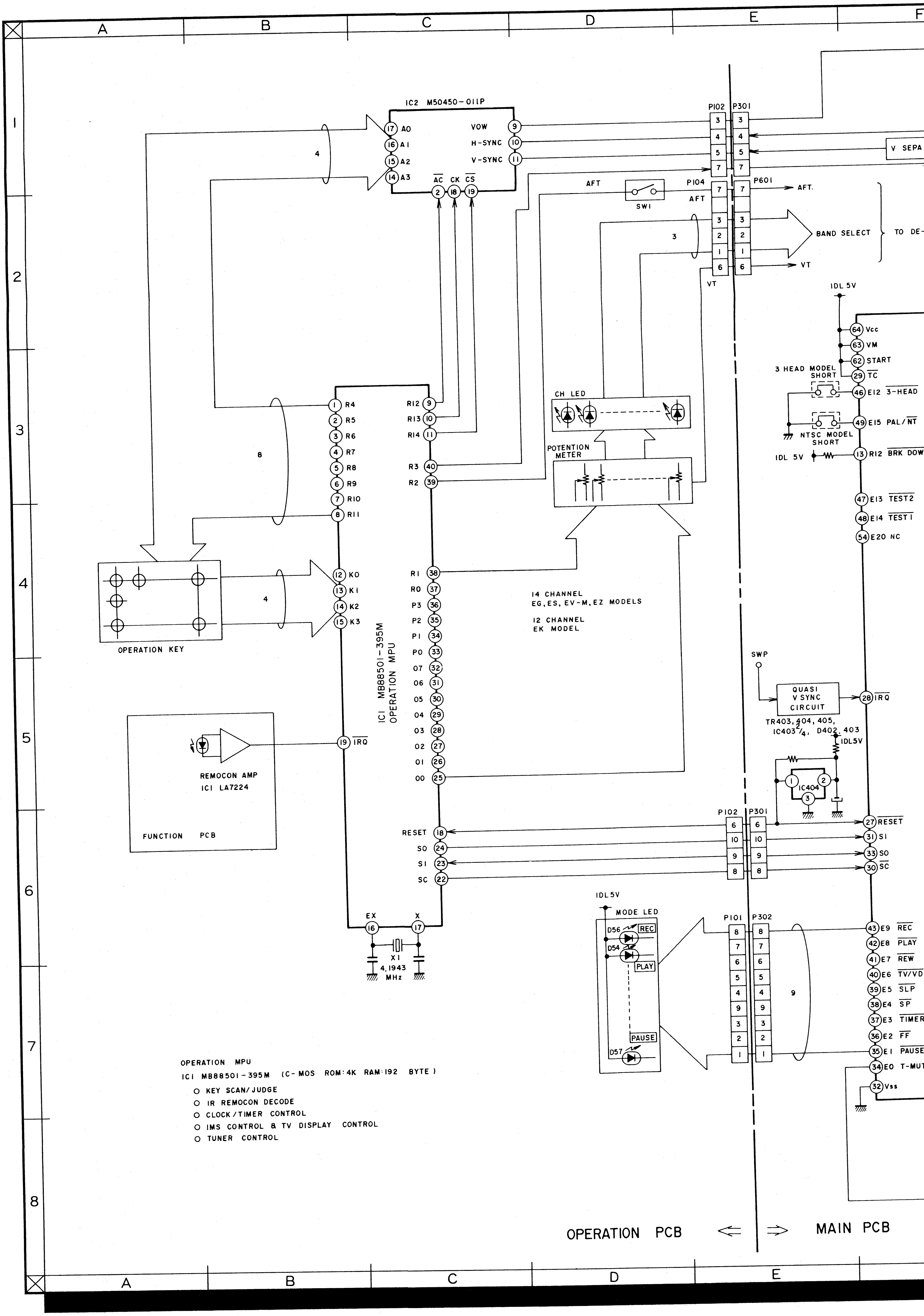

DRUM HEATER
P01
UNR 18V 2
HEAT SW 1
"ON" WHEN "L"
TR1
T901
F2 T2A
D8
D10
D7
D9
C4
FR2
FR3
D4
D6
D3
D5
C3
FR1
D2
C2
FR5
D1
C1
POWER PCB
J2
P801
6 DM STOP 6
5 UNR 18V 5
4 GND 4
3 UNR 17V 3
2 UNR 8V 2
1 UNR 45V 1
IC601
TR608,609
33V REG
33V
OPERATION PCB
UNR 18V
DRUM, CAPSTAN, LOADING MOTOR CONTROL
DM STOP FROM IC401 (61)
IDL 12V
DEMODULATOR CIRCUIT/ RF CONVERTOR
AL 12V
VIDEO, AUDIO CIRCUIT/ RF CONVERTOR
TR702
IC701 1/2
IDL 12V
REG
TR703
L : ON
TR17
L : ON
DL REC 12V
VIDEO REC AMP
D702
D703
D704
D705
R711
REC START FROM TR408
TR418
L : ON
AL FROM IC401 (24)
R714
TR701
IC701 2/2
IDL 5V
REG
IDL 5V
SYSTEM CONTROL CIRCUIT
SF1
TR16
L : ON
AL 5V
VIDEO CIRCUIT / FUNCTION PCB
SF2
TR202
L : ON
AL 5V
SERVO CIRCUIT
TR27
L : ON
EE 5V
VIDEO CIRCUIT
EE FROM IC401 (22)
TR15
L : ON
PB 5V
VIDEO CIRCUIT
AL12V
REC 5V
VIDEO CIRCUIT
TR28
H : ON
REC FROM IC401 (21)
MAIN PCB

VS-155 EV-M/EZ EG/EK/ES
POWER SUPPLY
BLOCK DIAGRAM

NO. 5-1 860217A


SIDE ERASE HEAD
PB
REC
F.E HEAD
SE
GND
PB
GND
REC
P502
P501
REC
IC502 µPC1513HA
VCC
AL12V
TR502
VR502
BIAS ADJ
BIAS
MAIN PCB
TO RF CONVERTER
AUDIO OUT
A-MUTE
BUFFER
BUFFER
REC
REC EQ
VCC
AL12V
ALC
LINE
SW
PB
PB EQ
VR501
PB LEVEL
IC501 BA5115
D501
REC START
AL12V
AUDIO IN
TUNER AUDIO IN
EE FROM IC401 PIN ㉒
PB SIGNAL
REC SIGNAL

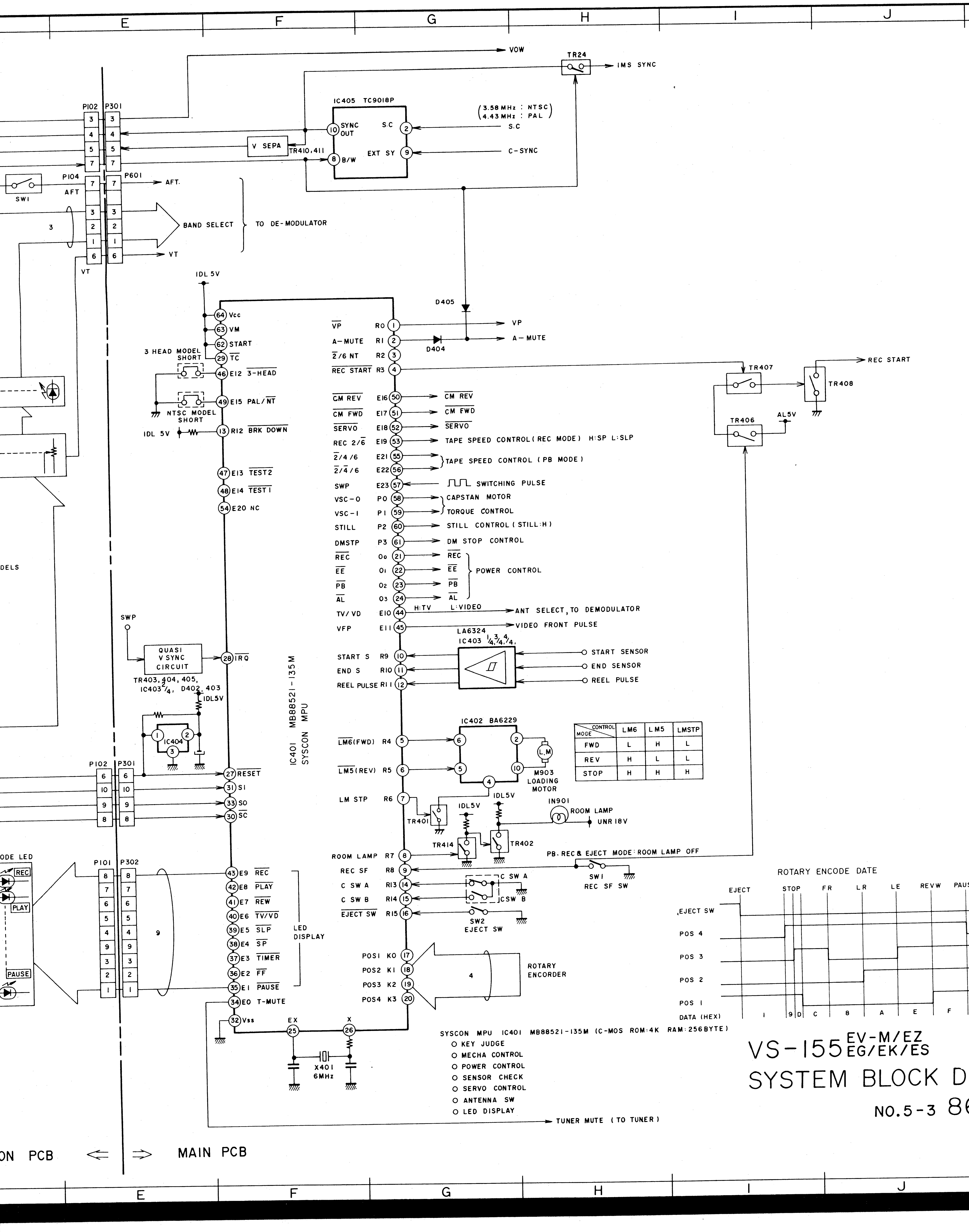
VS-155 EV-M/EZ EG/EK/ES
AUDIO
BLOCK DIAGRAM
NO.5-2 860218A₂(A3)


A
B
C
D
E
F
1
2
3
4
5
6
7
8
IC2 M50450-011P
A0
A1
A2
A3
VOW
H-SYNC
V-SYNC
AC
CK
CS
4
P102
P301
V SEPA
AFT
SW1
P104
AFT
P601
AFT.
3
BAND SELECT
TO DE-
VT
VT
IDL 5V
Vcc
VM
START
3 HEAD MODEL SHORT
TC
E12 3-HEAD
E15 PAL/NT
NTSC MODEL SHORT
IDL 5V
R12 BRK DOW
E13 TEST2
E14 TEST1
E20 NC
R4
R5
R6
R7
R8
R9
R10
R11
R12
R13
R14
R3
R2
8
CH LED
POTENTION METER
K0
K1
K2
K3
4
OPERATION KEY
R1
R0
P3
P2
P1
P0
07
06
05
04
03
02
01
00
14 CHANNEL
EG, ES, EV-M, EZ MODELS
12 CHANNEL
EK MODEL
IC1 MB88501-395M
OPERATION MPU
SWP
QUASI V SYNC CIRCUIT
TR403, 404, 405,
IC403 2/4, D402, 403
IDL5V
IC404
IRQ
IRQ
REMOCON AMP
IC1 LA7224
FUNCTION PCB
RESET
S0
S1
SC
RESET
S1
S0
SC
EX
X
X1
4.1943 MHz
IDL5V
MODE LED
D56
REC
D54
PLAY
PAUSE
D57
P101
P302
9
E9 REC
E8 PLAY
E7 REW
E6 TV/VD
E5 SLP
E4 SP
E3 TIMER
E2 FF
E1 PAUSE
E0 T-MUT
Vss
OPERATION PCB
⇐
⇒
MAIN PCB

OPERATION MPU

IC1 MB88501-395M (C-MOS ROM:4K RAM:192 BYTE)

- ○ KEY SCAN/JUDGE
- ○ IR REMOCON DECODE
- ○ CLOCK/TIMER CONTROL
- ○ IMS CONTROL & TV DISPLAY CONTROL
- ○ TUNER CONTROL


E
F
G
H
I
J
VOW
TR24
IMS SYNC
IC405 TC9018P
SYNC OUT
S.C
EXT SY
B/W
(3.58 MHz : NTSC
4.43 MHz : PAL)
S.C
C-SYNC
P102
P301
V SEPA
TR410,411
P104
AFT
SW1
P601
AFT.
BAND SELECT
TO DE-MODULATOR
VT
IDL 5V
D405
Vcc
VM
START
TC
3 HEAD MODEL SHORT
E12 3-HEAD
E15 PAL/NT
NTSC MODEL SHORT
IDL 5V
R12 BRK DOWN
E13 TEST2
E14 TEST1
E20 NC
VP R0
A-MUTE R1
2/6 NT R2
REC START R3
D404
VP
A-MUTE
REC START
TR407
TR408
TR406
AL5V
CM REV E16
CM FWD E17
SERVO E18
REC 2/6 E19
2/4/6 E21
2/4/6 E22
SWP E23
VSC-0 P0
VSC-1 P1
STILL P2
DMSTP P3
REC O0
EE O1
PB O2
AL O3
TV/VD E10
VFP E11
CM REV
CM FWD
SERVO
TAPE SPEED CONTROL (REC MODE) H:SP L:SLP
TAPE SPEED CONTROL (PB MODE)
SWITCHING PULSE
CAPSTAN MOTOR
TORQUE CONTROL
STILL CONTROL (STILL:H)
DM STOP CONTROL
REC
EE
PB
AL
POWER CONTROL
H:TV L:VIDEO
ANT SELECT, TO DEMODULATOR
VIDEO FRONT PULSE
DELS
SWP
QUASI V SYNC CIRCUIT
IRQ
TR403, 404, 405, IC403 2/4, D402, 403
IDL5V
IC404
IC401 MB88521-135M SYSCON MPU
LA6324 IC403 1/4, 3/4, 4/4.
START S R9
END S R10
REEL PULSE R11
START SENSOR
END SENSOR
REEL PULSE
IC402 BA6229
LM6(FWD) R4
LM5(REV) R5
LM STP R6
M903 LOADING MOTOR
L.M
IDL5V
TR401
IDL5V
IN901
ROOM LAMP
UNR 18V
TR414
TR402
RESET
SI
SO
SC
ODE LED
REC
PLAY
PAUSE
P101
P302
ROOM LAMP R7
REC SF R8
C SW A R13
C SW B R14
EJECT SW R15
PB. REC & EJECT MODE: ROOM LAMP OFF
SW1
REC SF SW
C SW A
CSW B
SW2
EJECT SW
E9 REC
E8 PLAY
E7 REW
E6 TV/VD
E5 SLP
E4 SP
E3 TIMER
E2 FF
E1 PAUSE
E0 T-MUTE
Vss
LED DISPLAY
POS1 K0
POS2 K1
POS3 K2
POS4 K3
ROTARY ENCORDER
EX
X
X401 6MHz
TUNER MUTE (TO TUNER)
ROTARY ENCODE DATE
EJECT
STOP
FR
LR
LE
REVW
PAU
EJECT SW
POS 4
POS 3
POS 2
POS 1
DATA (HEX)
1
9
D
C
8
A
E
F
ON PCB
MAIN PCB

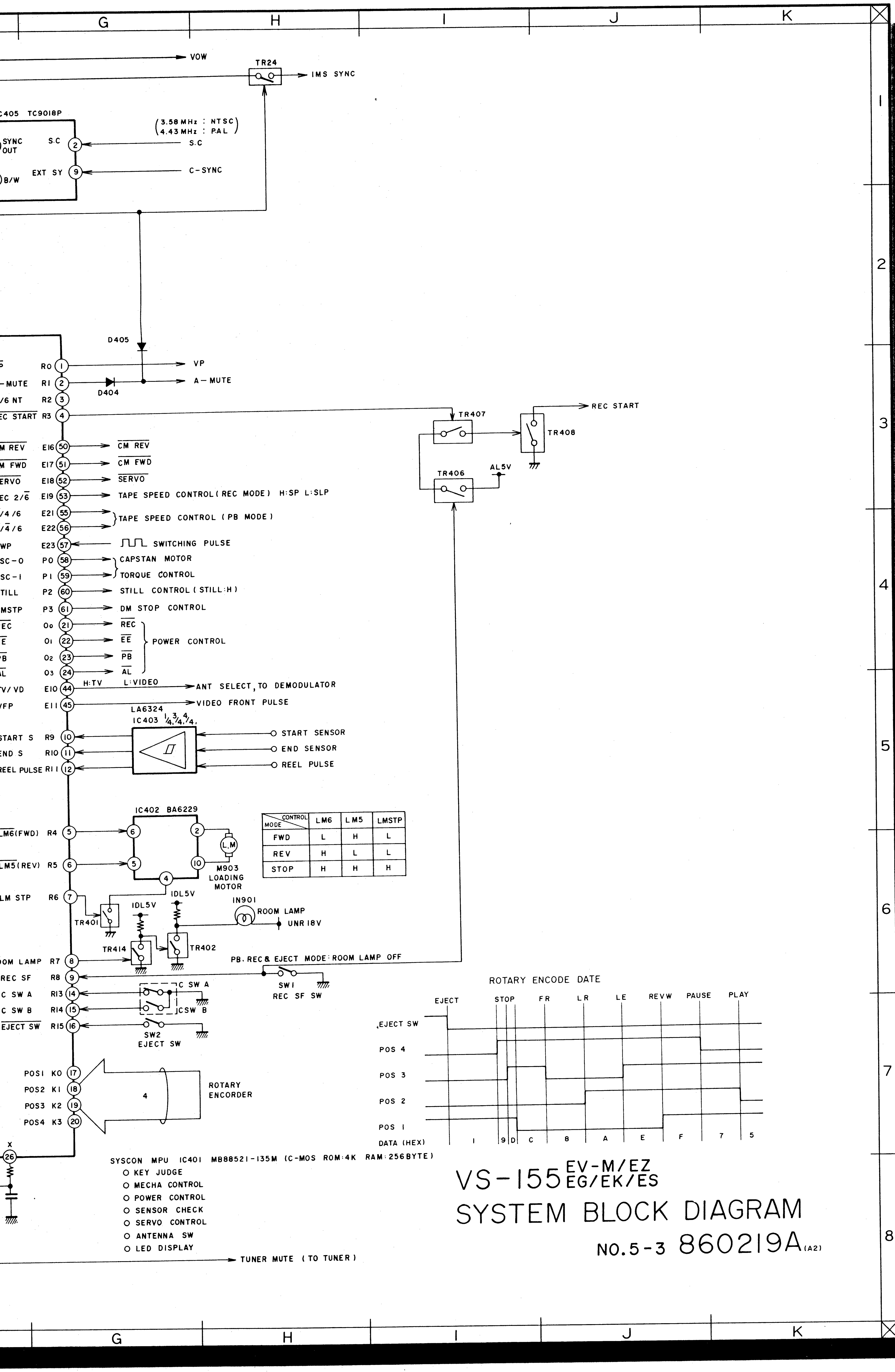
CONTROL / MODE	LM6	LM5	LMSTP
FWD	L	H	L
REV	H	L	L
STOP	H	H	H

SYSCON MPU IC401 MB88521-135M (C-MOS ROM:4K RAM:256BYTE)

- ○ KEY JUDGE
- ○ MECHA CONTROL
- ○ POWER CONTROL
- ○ SENSOR CHECK
- ○ SERVO CONTROL
- ○ ANTENNA SW
- ○ LED DISPLAY

VS-155 EV-M/EZ EG/EK/ES
SYSTEM BLOCK D

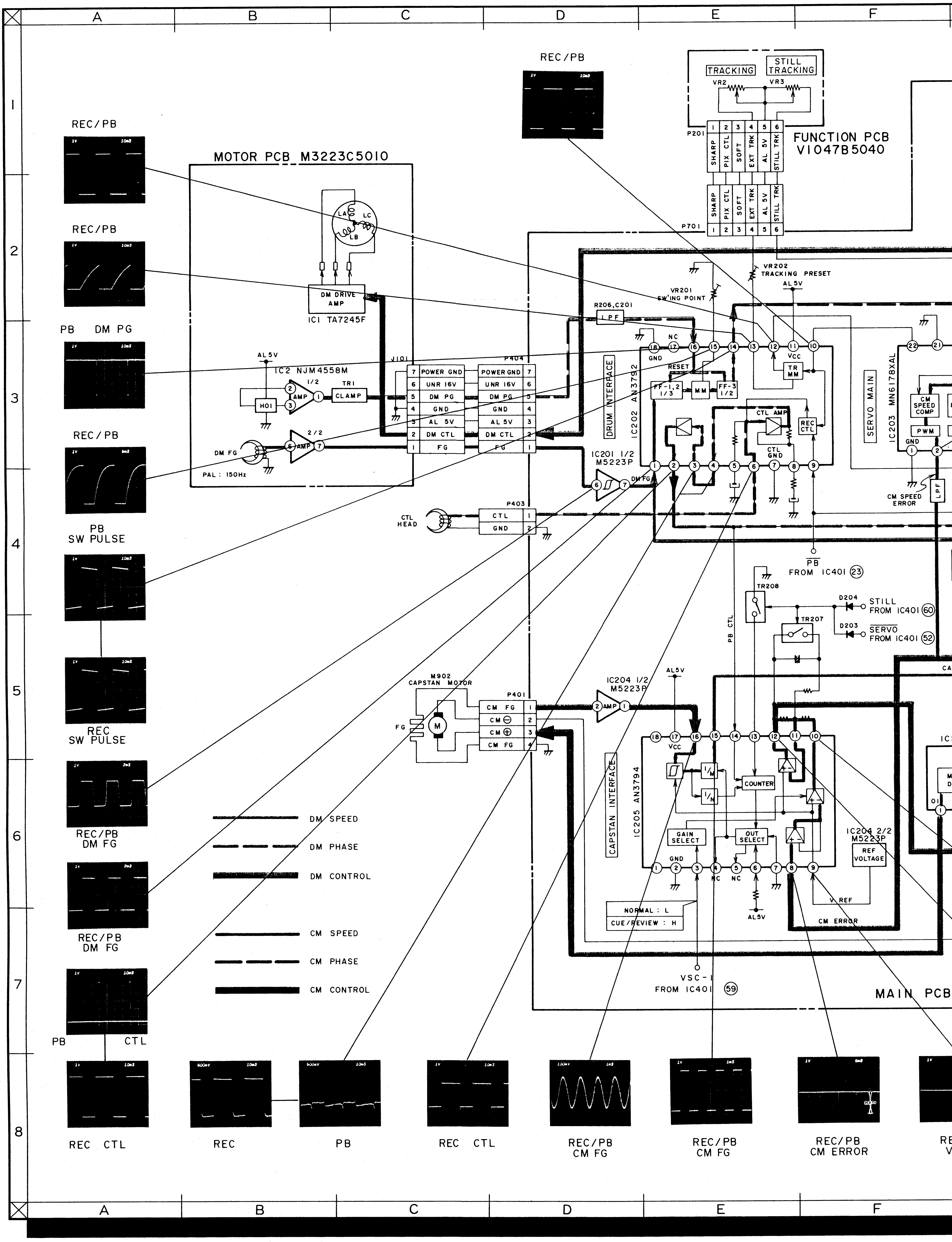
NO.5-3 8

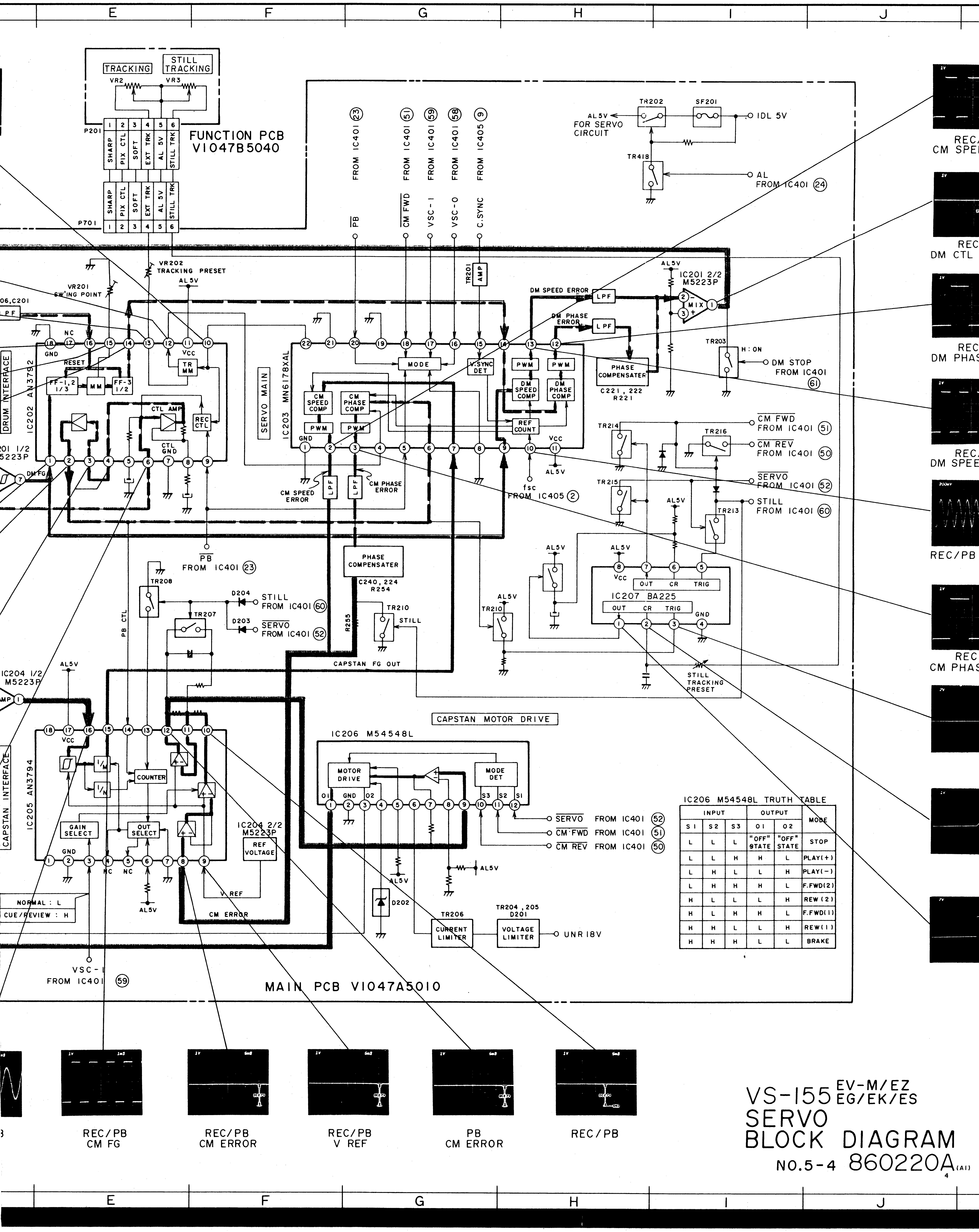

G
H
I
J
K
1
2
3
4
5
6
7
8
VOW
TR24
IMS SYNC
C405 TC9018P
SYNC OUT
S.C
EXT SY
B/W
(3.58 MHz : NTSC)
(4.43 MHz : PAL)
S.C
C-SYNC
D405
VP
A-MUTE
D404
-MUTE
/6 NT
EC START
R0 R1 R2 R3
REC START
TR407
TR408
TR406
AL5V
M REV
M FWD
ERVO
EC 2/6
/4/6
/4/6
WP
SC-0
SC-1
TILL
MSTP
EC
E
B
L
V/VD
FP
E16 E17 E18 E19 E21 E22 E23 P0 P1 P2 P3 O0 O1 O2 O3 E10 E11
CM REV
CM FWD
SERVO
TAPE SPEED CONTROL (REC MODE) H:SP L:SLP
TAPE SPEED CONTROL (PB MODE)
SWITCHING PULSE
CAPSTAN MOTOR
TORQUE CONTROL
STILL CONTROL (STILL:H)
DM STOP CONTROL
REC
EE
PB
AL
POWER CONTROL
H:TV
L:VIDEO
ANT SELECT, TO DEMODULATOR
VIDEO FRONT PULSE
LA6324
IC403 1/4, 3/4, 4/4,
TART S R9
END S R10
REEL PULSE R11
START SENSOR
END SENSOR
REEL PULSE
IC402 BA6229
LM6(FWD) R4
LM5(REV) R5
LM STP R6
L.M
M903
LOADING
MOTOR
IDL5V
IN901
ROOM LAMP
UNR 18V
TR401
TR414
TR402
OM LAMP R7
REC SF R8
C SW A R13
C SW B R14
EJECT SW R15
PB. REC & EJECT MODE: ROOM LAMP OFF
C SW A
C SW B
SW1
REC SF SW
SW2
EJECT SW
POS1 K0
POS2 K1
POS3 K2
POS4 K3
4
ROTARY
ENCORDER
ROTARY ENCODE DATE
EJECT
STOP
FR
LR
LE
REVW
PAUSE
PLAY
EJECT SW
POS 4
POS 3
POS 2
POS 1
DATA (HEX)
1
9
D
C
8
A
E
F
7
5
TUNER MUTE (TO TUNER)

CONTROL / MODE	LM6	LM5	LMSTP
FWD	L	H	L
REV	H	L	L
STOP	H	H	H

SYSCON MPU IC401 MB88521-135M (C-MOS ROM:4K RAM:256BYTE)
- ○ KEY JUDGE
- ○ MECHA CONTROL
- ○ POWER CONTROL
- ○ SENSOR CHECK
- ○ SERVO CONTROL
- ○ ANTENNA SW
- ○ LED DISPLAY

VS-155 EV-M/EZ EG/EK/ES
SYSTEM BLOCK DIAGRAM
NO.5-3 860219A (A2)


A
B
C
D
E
F
1
2
3
4
5
6
7
8
REC/PB
REC/PB
REC/PB
PB DM PG
REC/PB
PB
SW PULSE
REC
SW PULSE
REC/PB
DM FG
REC/PB
DM FG
PB
CTL
REC CTL
REC
PB
REC CTL
REC/PB
CM FG
REC/PB
CM FG
REC/PB
CM ERROR
MOTOR PCB M3223C5010
LA
LC
LB
DM DRIVE AMP
IC1 TA7245F
AL 5V
IC2 NJM4558M
1/2
AMP
TR1
CLAMP
HO1
2/2
AMP
DM FG
PAL : 150Hz
J101
P404
POWER GND
UNR 16V
DM PG
GND
AL 5V
DM CTL
FG
P403
CTL
GND
CTL HEAD
TRACKING
STILL TRACKING
VR2
VR3
P201
SHARP
PIX CTL
SOFT
EXT TRK
AL 5V
STILL TRK
FUNCTION PCB
V1047B5040
P701
VR202
TRACKING PRESET
AL 5V
VR201
SW'ING POINT
R206,C201
LPF
NC
GND
VCC
RESET
TR MM
FF-1,2 1/3
MM
FF-3 1/2
CTL AMP
REC CTL
CTL GND
DRUM INTERFACE
IC202 AN3792
IC201 1/2
M5223P
DM FG
SERVO MAIN
IC203 MN6178XAL
CM SPEED COMP
PWM
GND
CM SPEED ERROR
LPF
PB
FROM IC401 ㉓
TR208
D204
STILL
FROM IC401 (60)
TR207
D203
SERVO
FROM IC401 (52)
PB CTL
M902
CAPSTAN MOTOR
FG
M
P401
CM FG
CM ⊖
CM ⊕
CM FG
IC204 1/2
M5223P
AMP
AL 5V
VCC
1/M
1/N
COUNTER
CAPSTAN INTERFACE
IC205 AN3794
GAIN SELECT
OUT SELECT
GND
NC
NC
AL 5V
IC204 2/2
M5223P
REF VOLTAGE
V REF
CM ERROR
NORMAL : L
CUE/REVIEW : H
VSC-1
FROM IC401 (59)
MAIN PCB
CA
IC
DM SPEED
DM PHASE
DM CONTROL
CM SPEED
CM PHASE
CM CONTROL

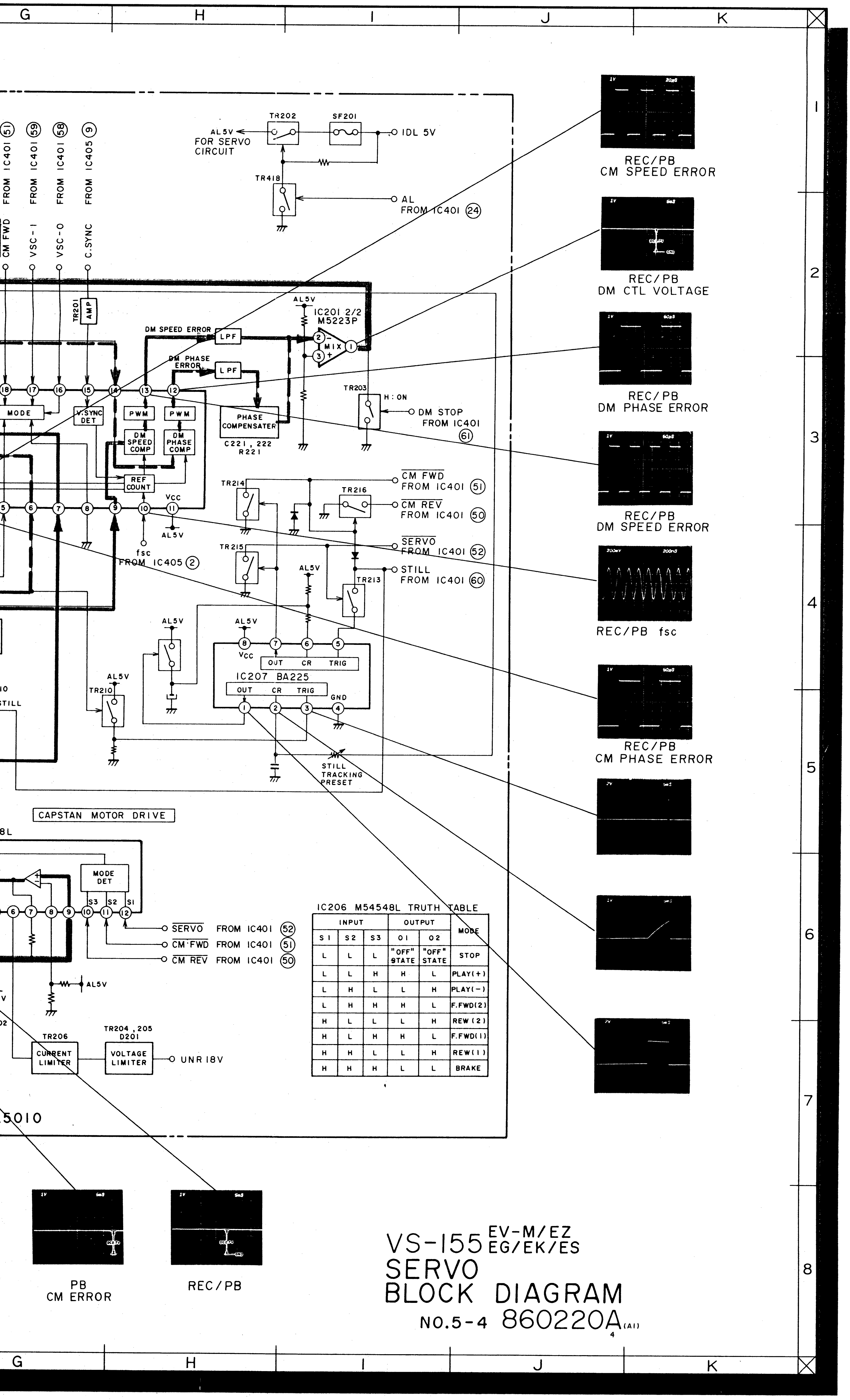

E
F
G
H
I
J
TRACKING
STILL TRACKING
VR2
VR3
P201
FUNCTION PCB V1047B5040
SHARP
PIX CTL
SOFT
EXT TRK
AL 5V
STILL TRK
P701
FROM IC401 (23)
FROM IC401 (51)
FROM IC401 (59)
FROM IC401 (58)
FROM IC405 (9)
PB
CM FWD
VSC-1
VSC-0
C.SYNC
TR201 AMP
VR202 TRACKING PRESET
AL 5V
VR201 SW'ING POINT
06,C201
PF
NC
GND
RESET
FF-1,2 1/3
MM
FF-3 1/2
TR MM
VCC
REC CTL
CTL AMP
CTL GND
DRUM INTERFACE
IC202 AN3792
201 1/2
5223P
DM FG
SERVO MAIN
IC203 MN6178XAL
MODE
V.SYNC DET
CM SPEED COMP
CM PHASE COMP
PWM
DM SPEED COMP
DM PHASE COMP
REF COUNT
CM SPEED ERROR
LPF
CM PHASE ERROR
fsc FROM IC405 (2)
DM SPEED ERROR
DM PHASE ERROR
LPF
PHASE COMPENSATER
C221, 222 R221
AL5V
IC201 2/2 M5223P
MIX
TR202
SF201
AL5V FOR SERVO CIRCUIT
IDL 5V
TR418
AL FROM IC401 (24)
TR203
H : ON
DM STOP FROM IC401 (61)
TR214
TR216
CM FWD FROM IC401 (51)
CM REV FROM IC401 (50)
TR215
SERVO FROM IC401 (52)
STILL FROM IC401 (60)
TR213
IC207 BA225
OUT CR TRIG
GND
STILL TRACKING PRESET
TR210
PB FROM IC401 (23)
PHASE COMPENSATER
C240, 224 R254
R255
TR210 STILL
CAPSTAN FG OUT
TR208
D204 STILL FROM IC401 (60)
TR207
D203 SERVO FROM IC401 (52)
PB CTL
IC204 1/2 M5223P
AMP
CAPSTAN INTERFACE
IC205 AN3794
1/M
1/N
COUNTER
GAIN SELECT
OUT SELECT
IC204 2/2 M5223P
REF VOLTAGE
V REF
CM ERROR
NORMAL : L
CUE/REVIEW : H
VSC-1 FROM IC401 (59)
CAPSTAN MOTOR DRIVE
IC206 M54548L
MOTOR DRIVE
MODE DET
O1 GND O2
S3 S2 S1
SERVO FROM IC401 (52)
CM FWD FROM IC401 (51)
CM REV FROM IC401 (50)
D202
TR206 CURRENT LIMITER
TR204, 205 D201 VOLTAGE LIMITER
UNR 18V
MAIN PCB V1047A5010
REC/ CM SPE
REC DM CTL
REC DM PHAS
REC/ DM SPEE
REC/PB
REC CM PHAS
REC/PB CM FG
REC/PB CM ERROR
REC/PB V REF
PB CM ERROR
REC/PB

IC206 M54548L TRUTH TABLE

INPUT			OUTPUT		MODE
S1	S2	S3	O1	O2	
L	L	L	"OFF" STATE	"OFF" STATE	STOP
L	L	H	H	L	PLAY(+)
L	H	L	L	H	PLAY(−)
L	H	H	H	L	F.FWD(2)
H	L	L	L	H	REW(2)
H	L	H	H	L	F.FWD(1)
H	H	L	L	H	REW(1)
H	H	H	L	L	BRAKE

VS-155 EV-M/EZ EG/EK/ES
SERVO BLOCK DIAGRAM

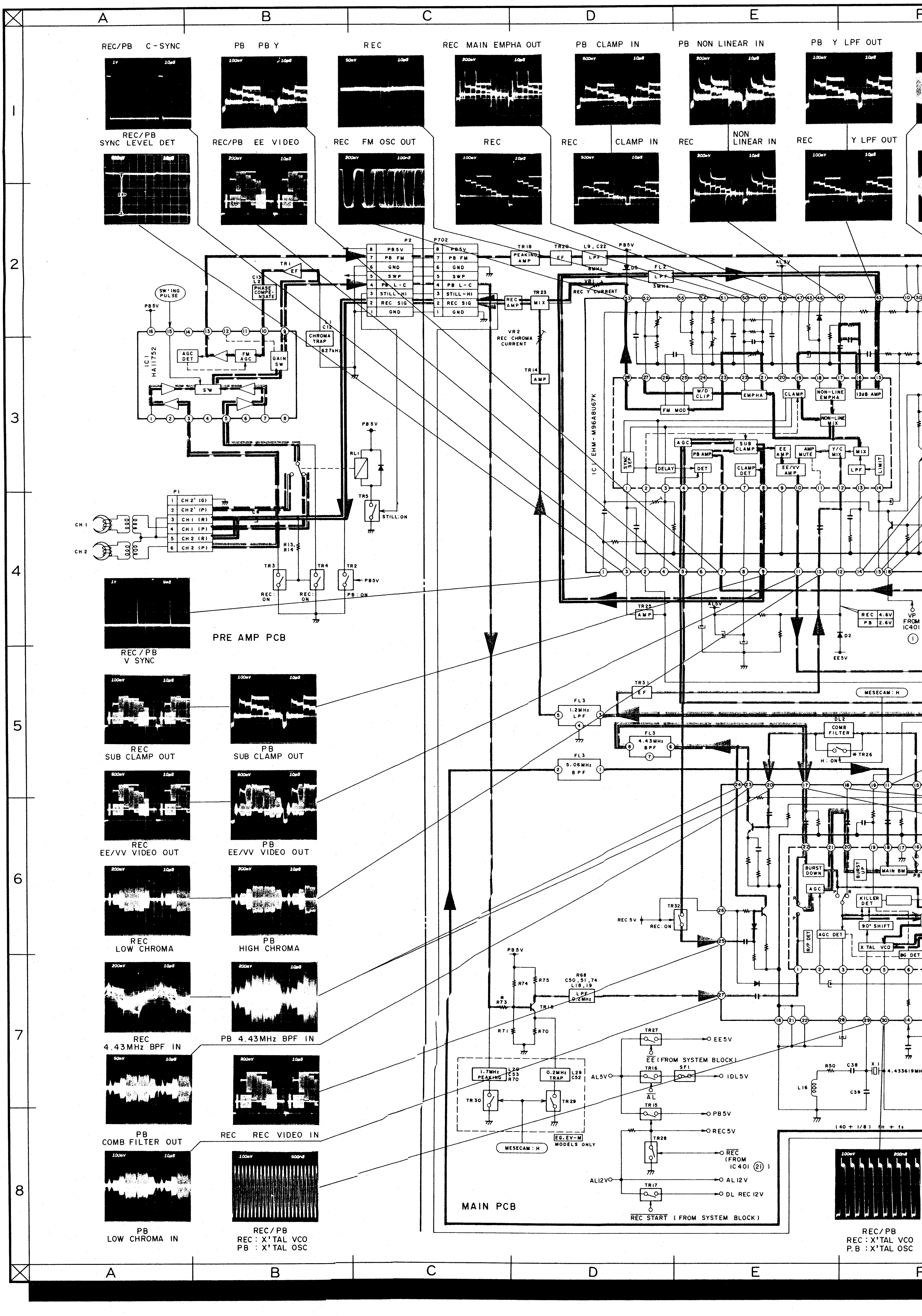
NO.5-4 860220A(A1)

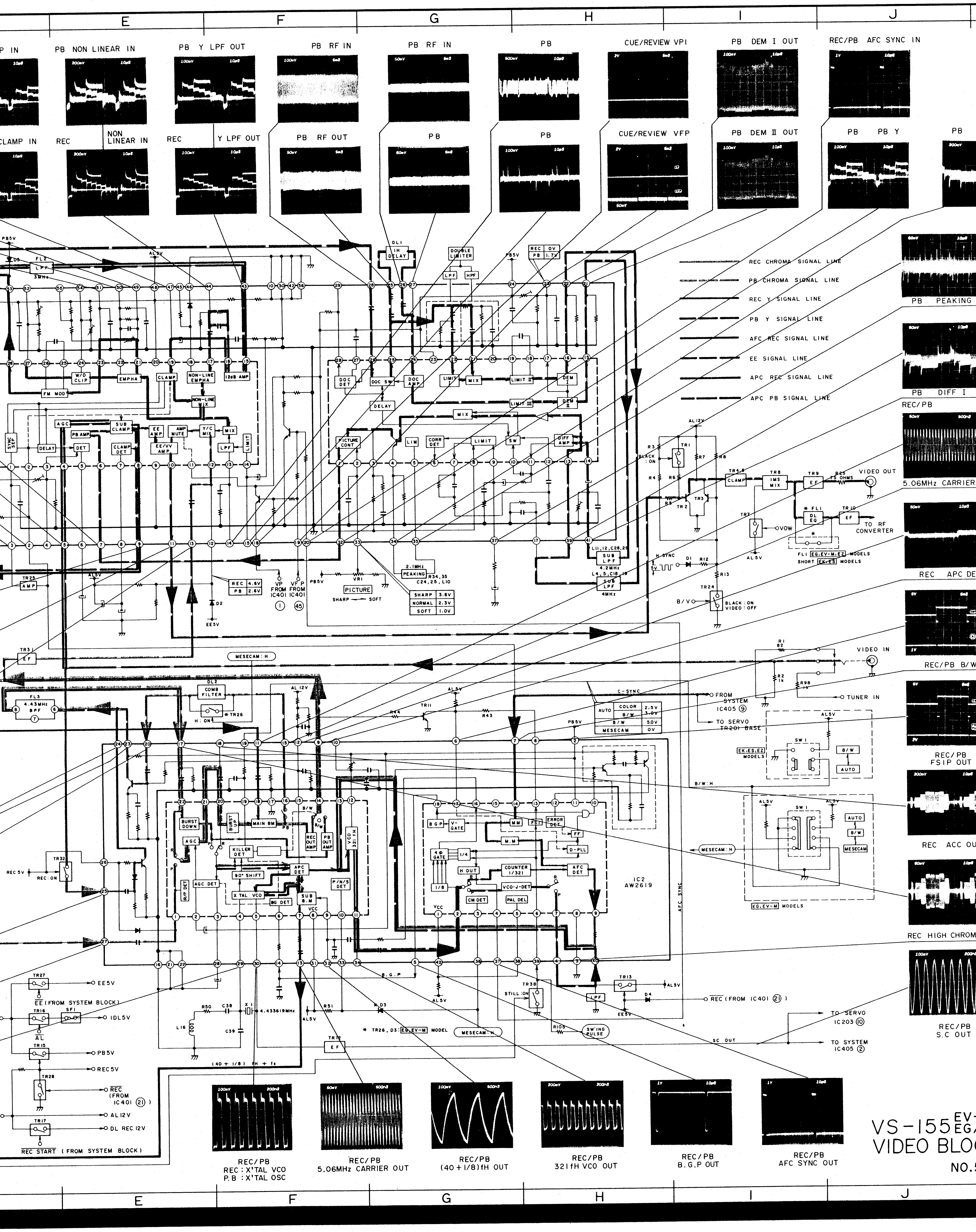

G
H
I
J
K
1
2
3
4
5
6
7
8
TR202
SF201
AL5V
FOR SERVO CIRCUIT
IDL 5V
TR418
AL
FROM IC401 (24)
CM FWD FROM IC401 (51)
VSC-1 FROM IC401 (59)
VSC-0 FROM IC401 (58)
C.SYNC FROM IC405 (9)
TR201 AMP
AL5V
IC201 2/2
M5223P
DM SPEED ERROR
LPF
DM PHASE ERROR
L PF
MIX
TR203
H : ON
DM STOP
FROM IC401 (61)
MODE
V.SYNC DET
PWM
PWM
DM SPEED COMP
DM PHASE COMP
PHASE COMPENSATER
C221, 222
R221
REF COUNT
Vcc
AL5V
fsc
FROM IC405 (2)
TR214
TR216
CM FWD
FROM IC401 (51)
CM REV
FROM IC401 (50)
TR215
SERVO
FROM IC401 (52)
STILL
FROM IC401 (60)
TR213
AL5V
AL5V
AL5V
Vcc
OUT CR TRIG
IC207 BA225
OUT CR TRIG
GND
TR210
STILL TRACKING PRESET
CAPSTAN MOTOR DRIVE
8L
MODE DET
S3 S2 S1
SERVO FROM IC401 (52)
CM·FWD FROM IC401 (51)
CM REV FROM IC401 (50)
AL5V
TR206
CURRENT LIMITER
TR204, 205
D201
VOLTAGE LIMITER
UNR 18V
5010
REC/PB
CM SPEED ERROR
REC/PB
DM CTL VOLTAGE
REC/PB
DM PHASE ERROR
REC/PB
DM SPEED ERROR
REC/PB fsc
REC/PB
CM PHASE ERROR
PB
CM ERROR
REC/PB

IC206 M54548L TRUTH TABLE

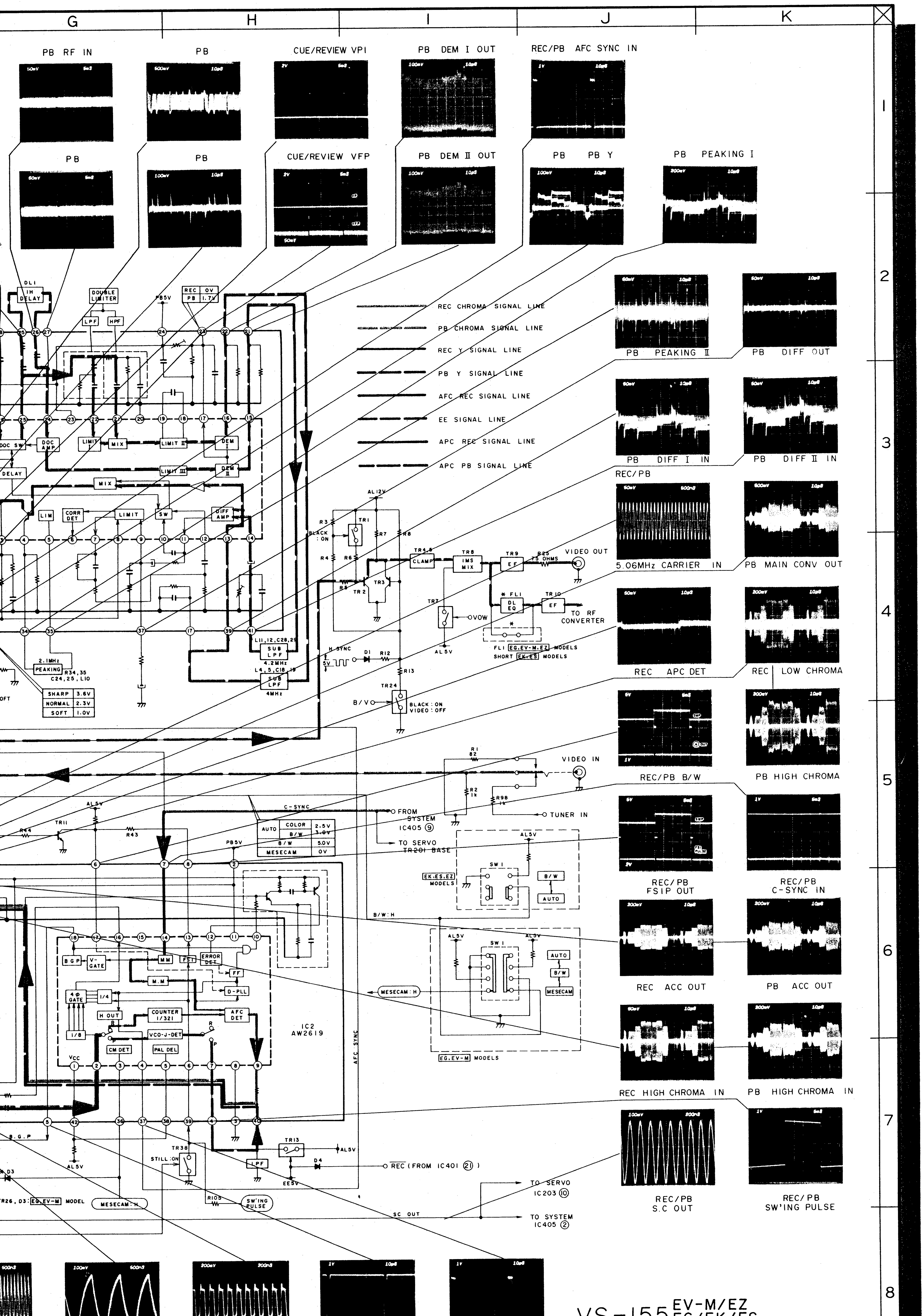
INPUT			OUTPUT		MODE
S1	S2	S3	O1	O2	
L	L	L	"OFF" STATE	"OFF" STATE	STOP
L	L	H	H	L	PLAY(+)
L	H	L	L	H	PLAY(−)
L	H	H	H	L	F.FWD(2)
H	L	L	L	H	REW(2)
H	L	H	H	L	F.FWD(1)
H	H	L	L	H	REW(1)
H	H	H	L	L	BRAKE

VS-155 EV-M/EZ
EG/EK/ES
SERVO
BLOCK DIAGRAM
NO.5-4 860220A (A1)
4

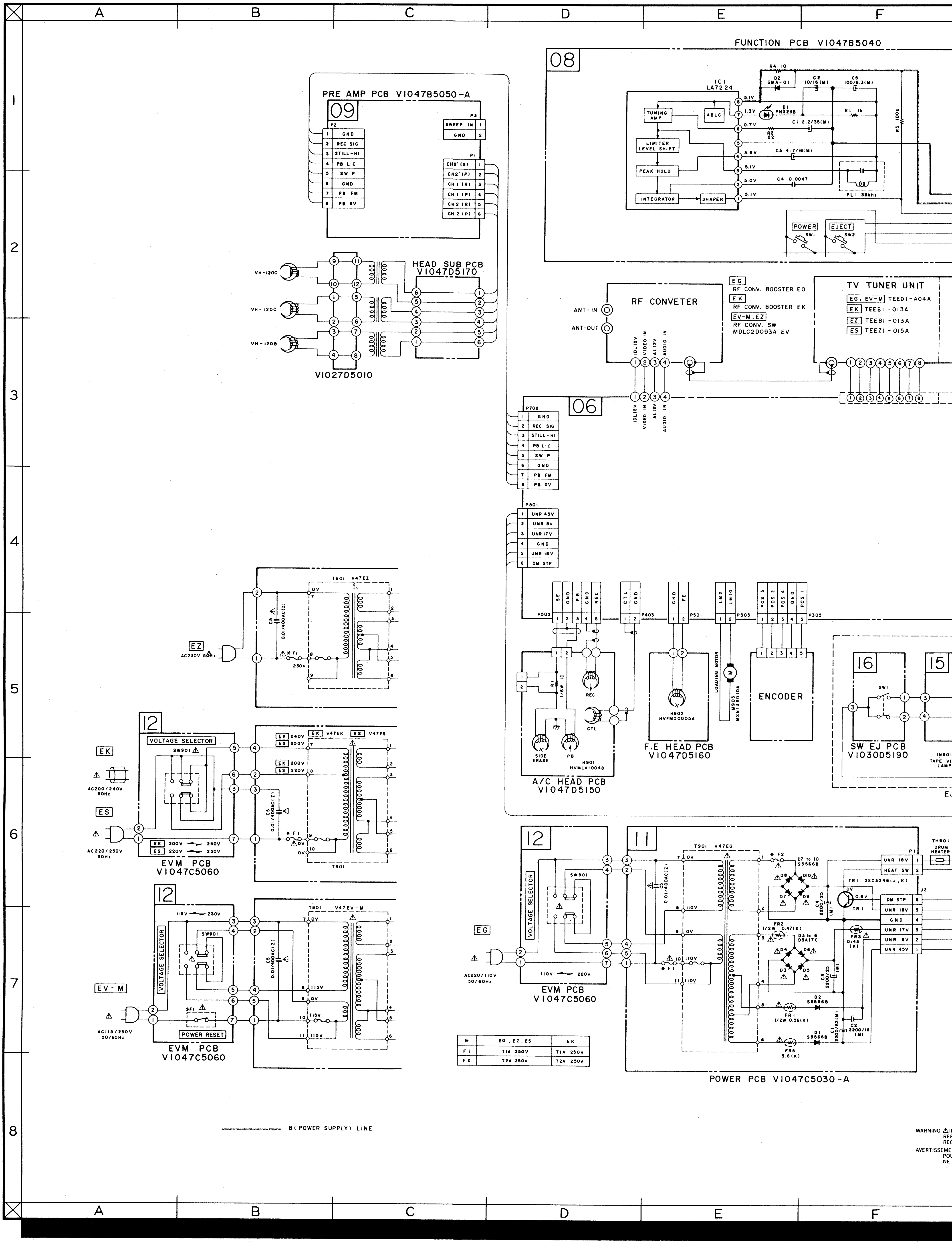

A
B
C
D
E
F
1
2
3
4
5
6
7
8
REC/PB C-SYNC
PB PB Y
REC
REC MAIN EMPHA OUT
PB CLAMP IN
PB NON LINEAR IN
PB Y LPF OUT
REC/PB SYNC LEVEL DET
REC/PB EE VIDEO
REC FM OSC OUT
REC
REC CLAMP IN
REC NON LINEAR IN
REC Y LPF OUT
P2
P702
PB5V
PB FM
GND
SWP
PB L-C
STILL-HI
REC SIG
TR18 PEAKING AMP
TR20 EF
L9, C22 LPF 6MHz
FL2 LPF 3MHz
D5
VR1
REC Y CURRENT
AL5V
TR1 EF
C13 L2 PHASE COMPENSATE
L1 C12 CHROMA TRAP 627kHz
REC AMP
TR23 MIX
VR2 REC CHROMA CURRENT
TR14 AMP
SW'ING PULSE
IC1 HA11752
AGC DET
FM AGC
GAIN SW
SW
IC1 EHM-M96A8U67K
W/D CLIP
EMPHA
CLAMP
NON-LINE EMPHA
12dB AMP
FM MOD
NON-LINE MIX
SYNC SEP
DELAY
AGC
PB AMP
DET
SUB CLAMP
CLAMP DET
EE AMP
EE/VV AMP
AMP MUTE
Y/C MIX
MIX
LPF
LIMIT
RL1
TR5
STILL:ON
P1
CH2' (G)
CH2' (P)
CH1 (R)
CH1 (P)
CH2 (R)
CH2 (P)
CH1
CH2
R13, R14
TR3
TR4
TR2
REC: ON
PB: ON
REC/PB V SYNC
PRE AMP PCB
TR25 AMP
REC 4.6V
PB 2.6V
VP FROM IC401 ①
D2
EE5V
TR31 EF
MESECAM: H
FL3 1.2MHz LPF
FL3 4.43MHz BPF
FL3 5.06MHz BPF
DL2 COMB FILTER
TR26
H: ON
REC SUB CLAMP OUT
PB SUB CLAMP OUT
REC EE/VV VIDEO OUT
PB EE/VV VIDEO OUT
REC LOW CHROMA
PB HIGH CHROMA
REC 4.43MHz BPF IN
PB 4.43MHz BPF IN
PB COMB FILTER OUT
REC REC VIDEO IN
PB LOW CHROMA IN
REC/PB REC: X'TAL VCO PB: X'TAL OSC
BURST DOWN
BURST UP
MAIN BM
AGC
KILLER DET
90° SHIFT
AGC DET
R/P DET
X TAL VCO
BG DET
REC 5V
TR32
REC: ON
PB5V
R74
R75
R73
R71
R70
TR19
R68 C50, 51, 74 L18, 19 LPF 0.2MHz
1.7MHz PEAKING L20 C53 R70
0.2MHz TRAP L29 C52
TR30
TR29
MESECAM: H
EG, EV-M MODELS ONLY
TR27
EE5V
EE (FROM SYSTEM BLOCK)
AL5V
TR16
SF1
IDL5V
AL
TR15
PB5V
REC5V
TR28
REC (FROM IC401 ㉑)
AL12V
TR17
AL12V
DL REC 12V
REC START (FROM SYSTEM BLOCK)
R50
C38
X1
4.433619MHz
L16
C39
(40 + 1/8) fH + fs
MAIN PCB
REC/PB REC: X'TAL VCO P.B: X'TAL OSC


E
F
G
H
I
J
P IN
PB NON LINEAR IN
PB Y LPF OUT
PB RF IN
PB RF IN
PB
CUE/REVIEW VPI
PB DEM I OUT
REC/PB AFC SYNC IN
CLAMP IN
REC
NON LINEAR IN
REC
Y LPF OUT
PB RF OUT
PB
PB
CUE/REVIEW VFP
PB DEM II OUT
PB PB Y
PB
REC CHROMA SIGNAL LINE
PB CHROMA SIGNAL LINE
REC Y SIGNAL LINE
PB Y SIGNAL LINE
AFC REC SIGNAL LINE
EE SIGNAL LINE
APC REC SIGNAL LINE
APC PB SIGNAL LINE
PB PEAKING
PB DIFF I
REC/PB
5.06MHz CARRIER
REC APC DE
REC/PB B/W
REC/PB FSIP OUT
REC ACC OU
REC HIGH CHROM
REC/PB S.C OUT
PB5V
AL5V
FL2 LPF 3MHz
DL1 1H DELAY
DOUBLE LIMITER
LPF
HPF
REC 0V
PB 1.7V
W/D CLIP
EMPHA
CLAMP
NON-LINE EMPHA
12dB AMP
NON-LINE MIX
FM MOD
AGC
SUB CLAMP
PB AMP
DET
CLAMP DET
EE AMP
AMP MUTE
EE/VV AMP
Y/C MIX
MIX
LPF
LIMIT
SYNC SEP
DELAY
DOC DET
DOC SW
DOC AMP
LIMIT
MIX
LIMIT II
DEM I
DELAY
LIMIT III
DEM II
MIX
PICTURE CONT
LIM
CORR DET
LIMIT
SW
DIFF AMP
AL12V
R3
TR1
BLACK : ON
R7
R8
R4
R6
TR4,5 CLAMP
TR8 IMS MIX
TR9 EF
R25 75 OHMS
VIDEO OUT
TR2
TR3
TR7
OVOW
* FL1 DL EQ
TR10 EF
TO RF CONVERTER
FL1 EG.EV-M.EZ MODELS
SHORT EK.ES MODELS
AL5V
H.SYNC
5V
D1
R12
R13
TR24
B/V
BLACK : ON
VIDEO : OFF
L11,12,C28,29 SUB LPF 4.2MHz
L4,5,C18,19 SUB LPF 4MHz
2.1MHz PEAKING
R34,35 C24,25,L10
PB5V
VR1
PICTURE
SHARP —— SOFT
SHARP 3.6V
NORMAL 2.3V
SOFT 1.0V
VP FROM IC401 ①
VFP FROM IC401 ㊺
REC 4.6V
PB 2.6V
D2
EE5V
TR25 AMP
TR31 EF
MESECAM : H
R1 82
VIDEO IN
R2 1k
R98 1k
TUNER IN
FL3 4.43MHz BPF
DL2 COMB FILTER
* TR26
H : ON
AL12V
AL5V
TR11
R44
R43
C-SYNC
AUTO
COLOR 2.5V
B/W 3.0V
B/W 5.0V
MESECAM 0V
FROM SYSTEM IC405 ⑨
TO SERVO TR201 BASE
PB5V
SW1
EK.ES.EZ MODELS
B/W
AUTO
B/W : H
AL5V
SW1
AUTO
B/W
MESECAM
MESECAM : H
EG.EV-M MODELS
BURST DOWN
BURST UP
MAIN BM
REC OUT AMP
PB OUT AMP
VCO 321fH
AGC
KILLER DET
APC DET
90° SHIFT
R/P DET
AGC DET
X TAL VCO
BG DET
SUB B.M
P/N/S DET
BGP
V-GATE
MM
FSI
ERROR DET
FF
M.M
D-PLL
4Φ GATE
1/4
H OUT
COUNTER 1/321
AFC DET
1/8
VCO-J-DET
CM DET
PAL DEL
IC2 AW2619
AFC SYNC
TR32
REC 5V
REC : ON
B.G.P
TR27
EE5V
EE (FROM SYSTEM BLOCK)
TR16
SF1
IDL5V
AL
TR15
PB5V
REC5V
TR28
REC (FROM IC401 ㉑)
AL12V
TR17
DL REC 12V
REC START (FROM SYSTEM BLOCK)
R50
C38
X1
4.433619MHz
L16
C39
R51
D3
AL5V
TR12 EF
* TR26, D3 : EG.EV-M MODEL
MESECAM : H
(40 + 1/8) fH + fs
TR38
STILL : ON
R105
SW'ING PULSE
LPF
TR13
AL5V
D4
EE5V
REC (FROM IC401 ㉑)
TO SERVO IC203 ⑩
SC OUT
TO SYSTEM IC405 ②
REC/PB REC : X'TAL VCO P.B : X'TAL OSC
REC/PB 5.06MHz CARRIER OUT
REC/PB (40 + 1/8)fH OUT
REC/PB 321fH VCO OUT
REC/PB B.G.P OUT
REC/PB AFC SYNC OUT

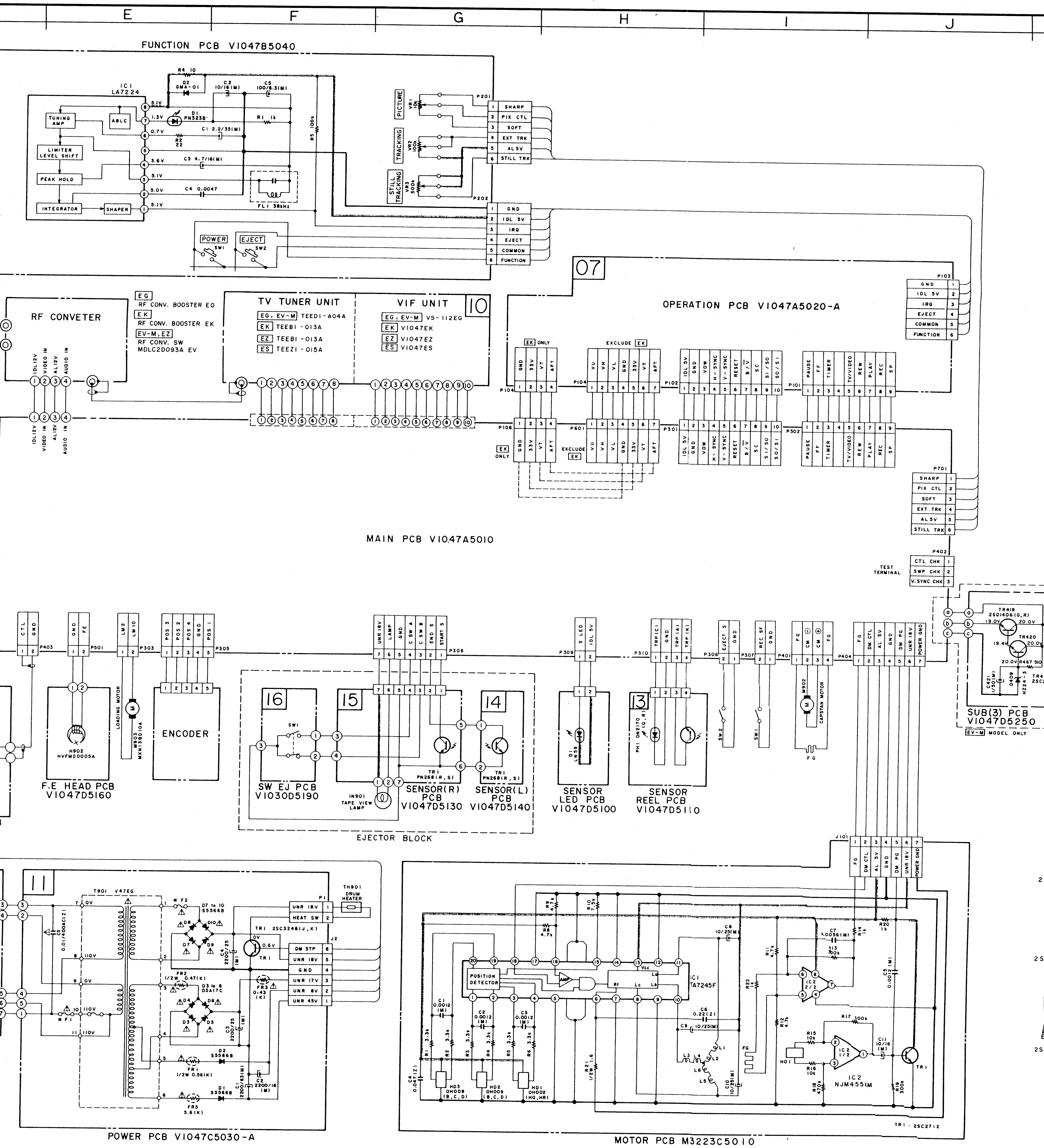
VS-155 EV-
EG
VIDEO BLOC
NO.5


PB RF IN
PB
CUE/REVIEW VPI
PB DEM I OUT
REC/PB AFC SYNC IN
PB
PB
CUE/REVIEW VFP
PB DEM II OUT
PB PB Y
PB PEAKING I
PB PEAKING II
PB DIFF OUT
PB DIFF I IN
PB DIFF II IN
REC/PB
5.06MHz CARRIER IN
PB MAIN CONV OUT
REC APC DET
REC LOW CHROMA
REC/PB B/W
PB HIGH CHROMA
REC/PB FSIP OUT
REC/PB C-SYNC IN
REC ACC OUT
PB ACC OUT
REC HIGH CHROMA IN
PB HIGH CHROMA IN
REC/PB S.C OUT
REC/PB SW'ING PULSE
REC/PB (40+1/8)fH OUT
REC/PB 321fH VCO OUT
REC/PB B.G.P OUT
REC/PB AFC SYNC OUT
REC CHROMA SIGNAL LINE
PB CHROMA SIGNAL LINE
REC Y SIGNAL LINE
PB Y SIGNAL LINE
AFC REC SIGNAL LINE
EE SIGNAL LINE
APC REC SIGNAL LINE
APC PB SIGNAL LINE
DL1 1H DELAY
DOUBLE LIMITER
LPF
HPF
REC 0V
PB 1.7V
PB5V
DOC SW
DOC AMP
LIMIT I
MIX
LIMIT II
DEM I
LIMIT III
DEM II
DELAY
LIM
CORR DET
LIMIT
SW
DIFF AMP
2.1MHz PEAKING
R34,35 C24,25,L10
SHARP 3.6V
NORMAL 2.3V
SOFT 1.0V
L11,12,C28,29
SUB LPF 4.2MHz
L4,5,C18,19
SUB LPF 4MHz
AL12V
TR1
BLACK : ON
TR2
TR3
TR4,5 CLAMP
TR8 IMS MIX
TR9 EF
R25 75 OHMS
VIDEO OUT
TR7
VOW
AL5V
* FL1 DL EQ
TR10 EF
TO RF CONVERTER
FL1 EG.EV-M.EZ MODELS
SHORT EK.ES MODELS
H.SYNC
5V
D1
R12
R13
TR24
B/V
BLACK : ON
VIDEO : OFF
R1 82
VIDEO IN
R2 1k
R98 1k
TUNER IN
C-SYNC
FROM SYSTEM IC405 ⑨
TO SERVO TR201 BASE
AUTO
COLOR 2.5V
B/W 3.0V
B/W 5.0V
MESECAM 0V
TR11
R44
R43
EK.ES.EZ MODELS
SW1
B/W
AUTO
B/W : H
MESECAM : H
MESECAM
EG.EV-M MODELS
BGP
V-GATE
MM
FSI
ERROR DET
FF
M.M
D-PLL
4Φ GATE
1/4
H OUT
COUNTER 1/321
AFC DET
1/8
CM DET
VCO-J-DET
PAL DEL
VCC
IC2 AW2619
AFC SYNC
TR38
STILL:ON
TR13
D4
REC (FROM IC401 ㉑)
EE5V
LPF
TR26, D3: EG.EV-M MODEL
MESECAM:H
R105
SW'ING PULSE
SC OUT
TO SERVO IC203 ⑩
TO SYSTEM IC405 ②
G
H
I
J
K
1
2
3
4
5
6
7
8

VS-155 EV-M/EZ EG/EK/ES
VIDEO BLOCK DIAGRAM
NO.5-5 860221A (A1)


FUNCTION PCB V1047B5040
08
IC1 LA7224
TUNING AMP
ABLC
LIMITER LEVEL SHIFT
PEAK HOLD
INTEGRATOR
SHAPER
D1 PN3238
D2 GMA-01
FL1 38kHz
POWER SW1
EJECT SW2
PRE AMP PCB V1047B5050-A
09
GND
REC SIG
STILL-HI
PB L·C
SW P
PB FM
PB 5V
SWEEP IN
CH2'(R)
CH2'(P)
CH1(R)
CH1(P)
CH2(R)
CH2(P)
HEAD SUB PCB V1047D5170
VH-120C
VH-120C
VH-120B
V1027D5010
RF CONVETER
ANT-IN
ANT-OUT
EG RF CONV. BOOSTER EO
EK RF CONV. BOOSTER EK
EV-M, EZ RF CONV. SW MDLC2D093A EV
TV TUNER UNIT
EG, EV-M TEED1-A04A
EK TEEB1-013A
EZ TEEB1-013A
ES TEEZ1-015A
06
P702
P801
UNR 45V
UNR 8V
UNR 17V
UNR 18V
DM STP
P502 P403 P501 P303 P305
LOADING MOTOR M903 MXN1380D10A
ENCODER
A/C HEAD PCB V1047D5150
SIDE ERASE
REC
PB
CTL
H901 HVMLA1004B
F.E HEAD PCB V1047D5160
H902 HVFMD0005A
16
15
SW EJ PCB V1030D5190
EZ AC230V 50Hz
T901 V47EZ
12
VOLTAGE SELECTOR
SW901
EK
ES
AC200/240V 50Hz
AC220/250V 50Hz
EK 200V — 240V
ES 220V — 250V
EVM PCB V1047C5060
T901 V47EK V47ES
EV-M
AC115/230V 50/60Hz
115V — 230V
SF1
POWER RESET
T901 V47EV-M
EG
AC220/110V 50/60Hz
110V — 220V
11
T901 V47EG
TR1 2SC3246(J,K)
D7 to 10 SS566B
D3 to 6 DSA17C
FR1 1/2W 0.56(K)
FR2 1/2W 0.47(K)
FR3 0.43(K)
FR5 5.6(K)
TH901 DRUM HEATER
HEAT SW
POWER PCB V1047C5030-A
B(POWER SUPPLY) LINE
WARNING
AVERTISSEME

*	EG, EZ, ES	EK
F1	T1A 250V	T1A 250V
F2	T2A 250V	T2A 250V

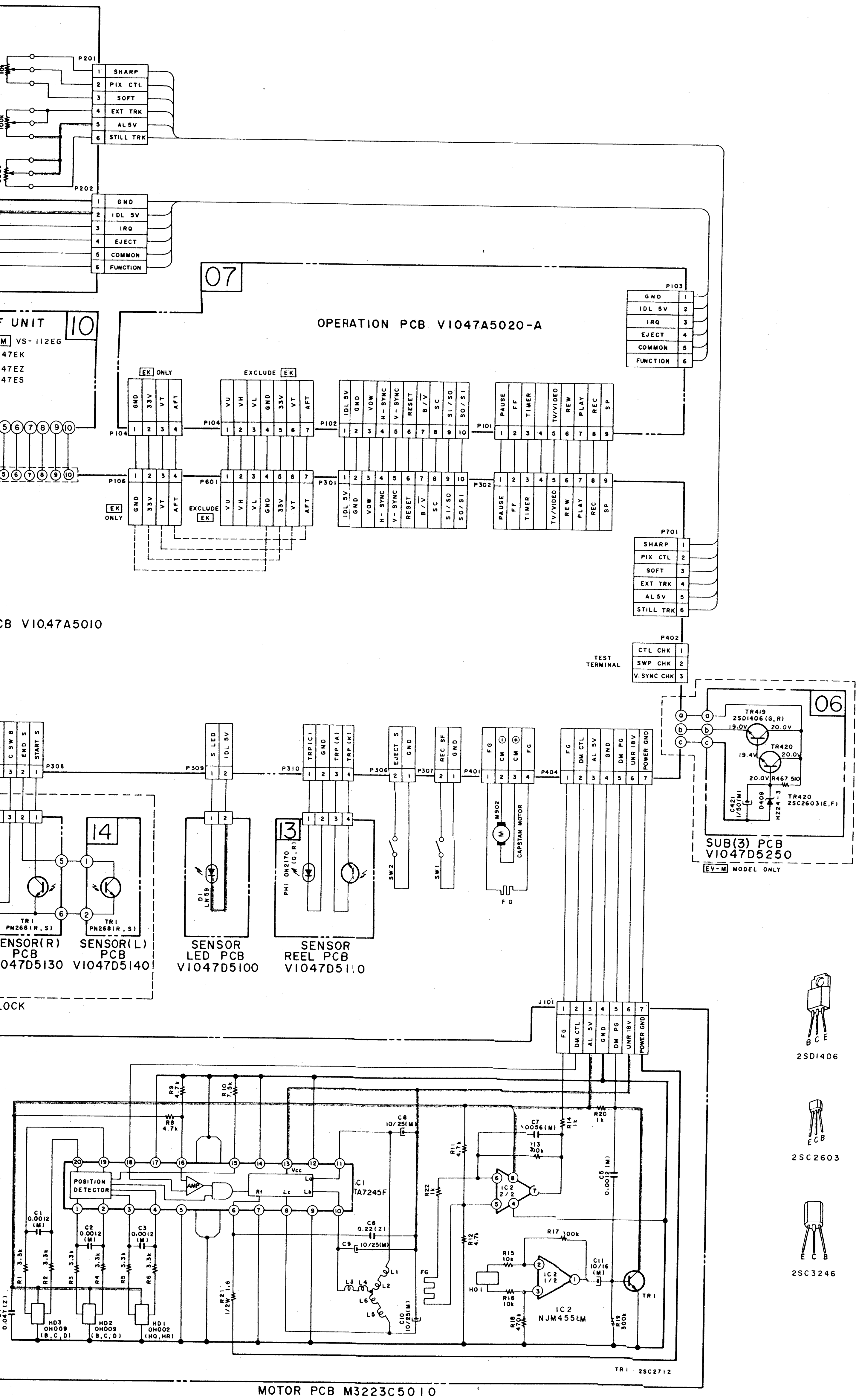

E
F
G
H
I
J
FUNCTION PCB V1047B5040
IC1 LA7224
TUNING AMP
ABLC
LIMITER LEVEL SHIFT
PEAK HOLD
INTEGRATOR
SHAPER
FL1 38kHz
PICTURE
TRACKING
STILL TRACKING
P201
SHARP
PIX CTL
SOFT
EXT TRK
AL5V
STILL TRK
P202
GND
IDL 5V
IRQ
EJECT
COMMON
FUNCTION
POWER
EJECT
SW1
SW2
07
OPERATION PCB V1047A5020-A
P103
RF CONVETER
EG
RF CONV. BOOSTER EO
EK
RF CONV. BOOSTER EK
EV-M, EZ
RF CONV. SW
MDLC2D093A EV
TV TUNER UNIT
EG, EV-M TEED1-A04A
EK TEEB1-013A
EZ TEEB1-013A
ES TEEZ1-015A
VIF UNIT
10
EG, EV-M VS-112EG
EK V1047EK
EZ V1047EZ
ES V1047ES
EK ONLY
EXCLUDE EK
P104
P102
P101
P106
P601
P301
P302
MAIN PCB V1047A5010
P701
P402
TEST TERMINAL
CTL CHK
SWP CHK
V.SYNC CHK
TR419 2SD1406(G,R)
TR420
SUB(3) PCB V1047D5250
EV-M MODEL ONLY
P403
P501
P303
P305
P308
P309
P310
P306
P307
P401
P404
H902 HVFMD0005A
F.E HEAD PCB V1047D5160
LOADING MOTOR
M903 MXN138D10A
ENCODER
16
15
14
SW EJ PCB V1030D5190
IN901 TAPE VIEW LAMP
SENSOR(R) PCB V1047D5130
SENSOR(L) PCB V1047D5140
TR1 PN268(R,S)
EJECTOR BLOCK
SENSOR LED PCB V1047D5100
13
SENSOR REEL PCB V1047D5110
M902 CAPSTAN MOTOR
FG
J101
11
T901 V47EG
TH901 DRUM HEATER
UNR 18V
HEAT SW
DM STP
UNR 18V
GND
UNR 17V
UNR 8V
UNR 45V
TR1 2SC3246(J,K)
POWER PCB V1047C5030-A
IC1 TA7245F
POSITION DETECTOR
IC2 NJM455&M
HD3 OH009 (B,C,D)
HD2 OH009 (B,C,D)
HD1 OH002 (HQ,HR)
TR1 : 2SC2712
MOTOR PCB M3223C5010

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY. REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6 (J)
ALL CAPACITORS IN μF 50WV(J)
POWER TRANSFORMER IS DIFFERENT
ACCORDING TO AREA

VS-155$^{EV-M/EZ}_{EG/EK/ES}$
CONNECTION DIAG
NO.7-1 8602


G
H
I
J
K
1
2
3
4
5
6
7
8
P201
1 SHARP
2 PIX CTL
3 SOFT
4 EXT TRK
5 AL 5V
6 STILL TRK
P202
1 GND
2 IDL 5V
3 IRQ
4 EJECT
5 COMMON
6 FUNCTION
07
OPERATION PCB V1047A5020-A
P103
GND 1
IDL 5V 2
IRQ 3
EJECT 4
COMMON 5
FUNCTION 6
F UNIT
10
EV-M VS-112EG
47EK
47EZ
47ES
EK ONLY
EXCLUDE EK
GND
33V
VT
AFT
VU
VH
VL
GND
33V
VT
AFT
IDL 5V
GND
VOW
H-SYNC
V-SYNC
RESET
B/V
SC
S1/SO
SO/S1
PAUSE
FF
TIMER
TV/VIDEO
REW
PLAY
REC
SP
P104
P102
P101
P106
P601
P301
P302
EK ONLY
EXCLUDE EK
P701
SHARP 1
PIX CTL 2
SOFT 3
EXT TRK 4
AL 5V 5
STILL TRK 6
CB V10.47A5010
P402
TEST TERMINAL
CTL CHK 1
SWP CHK 2
V.SYNC CHK 3
06
TR419
2SD1406(G,R)
19.0V
20.0V
TR420
19.4V
20.0V
20.0V R467 510
C421 1/50(M)
D409 HZ24-3
TR420
2SC2603(E,F)
SUB(3) PCB
V1047D5250
EV-M MODEL ONLY
C SW B
END S
START S
P308
S LED
IDL 5V
P309
TRP(C)
GND
TRP(A)
TRP(K)
P310
EJECT S
GND
P306
REC SF
GND
P307
FG
CM ⊖
CM ⊕
FG
P401
FG
DM CTL
AL 5V
GND
DM PG
UNR 18V
POWER GND
P404
14
TR1
PN268(R,S)
TR1
PN268(R,S)
SENSOR(R)
PCB
047D5130
SENSOR(L)
PCB
V1047D5140
D1
LN59
SENSOR
LED PCB
V1047D5100
13
PH1 ON2170 (Q,R)
SENSOR
REEL PCB
V1047D5110
SW2
SW1
M902
CAPSTAN MOTOR
FG
LOCK
J101
FG
DM CTL
AL 5V
GND
DM PG
UNR 18V
POWER GND
2SD1406
B C E
2SC2603
E C B
2SC3246
E C B
R9 4.7k
R10 7.5k
R8 4.7k
C8 10/25(M)
C7 .0056(M)
R14 1k
R20 1k
R13 300k
R11 4.7k
POSITION DETECTOR
AMP
Vcc
La
Lb
Rf
Lc
IC1
TA7245F
IC2 2/2
R22 1k
C5 0.0012(M)
C1 0.0012 (M)
C2 0.0012 (M)
C3 0.0012 (M)
C6 0.22(Z)
C9 10/25(M)
R17 100k
R12 4.7k
R15 10k
C11 10/16 (M)
R1 3.3k
R2 3.3k
R3 3.3k
R4 3.3k
R5 3.3k
R6 3.3k
R21 1.6 1/2W
L1
L2
L3
L4
L6
L5
FG
HO1
R16 10k
IC2 1/2
TR1
0.047(Z)
HD3 OH009 (B,C,D)
HD2 OH009 (B,C,D)
HD1 OH002 (HQ,HR)
C10 10/25(M)
R18 470k
IC2 NJM4558M
R19 300k
TR1 : 2SC2712
MOTOR PCB M3223C5010

CRITICAL COMPONENTS FOR CONTINUED SAFETY,
TICAL COMPONENTS ONLY WITH MANUFACTURER'S
TS

LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
DES PIÈCES RECOMMANDEES PAR LE FABRICANT

NOTE
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ALL CAPACITORS IN μF 50WV(J)
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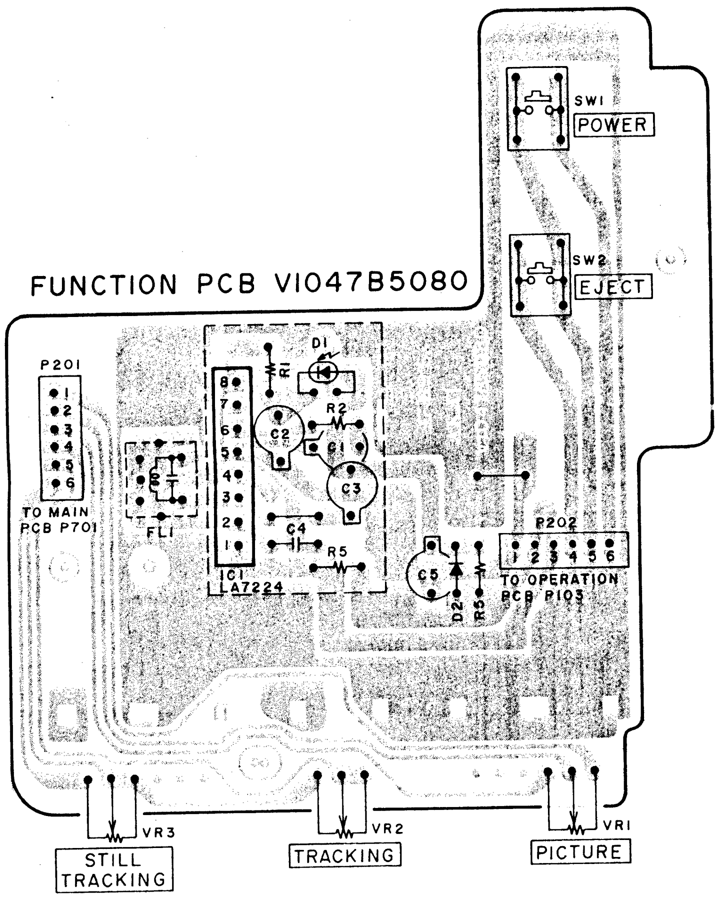
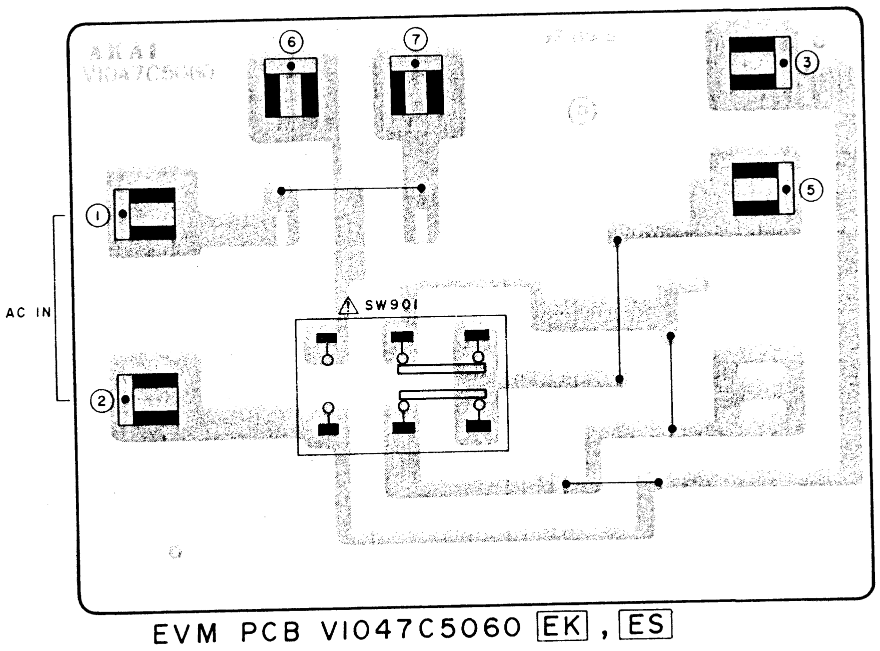
ACCORDING TO AREA

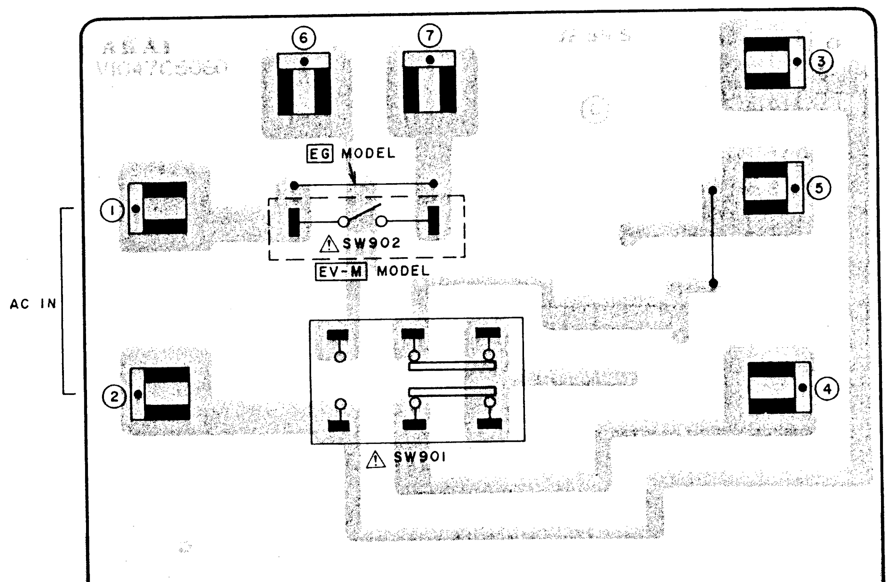
VS-155 EV-M/EZ EG/EK/ES
CONNECTION DIAGRAM
NO.7-1 860222A

FUNCTION PCB VI047B5080

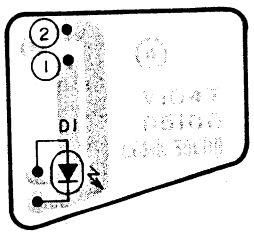

P201
TO MAIN PCB P701
FL1
IC1 LA7224
D1
R1
R2
C1
C2
C3
C4
R5
C5
D2
R3
SW1
POWER
SW2
EJECT
P202
TO OPERATION PCB P103
VR3
STILL TRACKING
VR2
TRACKING
VR1
PICTURE


AKAI
VI047C5060
AC IN
SW901
①
②
③
⑤
⑥
⑦

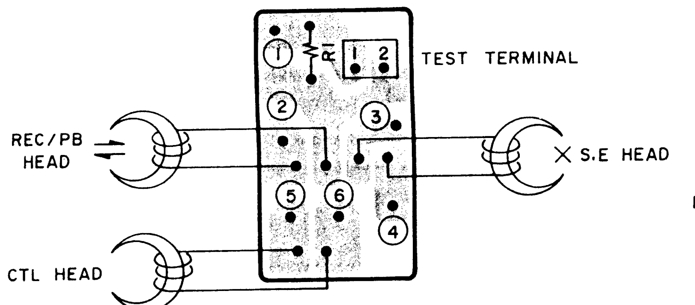
EVM PCB VI047C5060 EK, ES


AKAI
VI047C5060
AC IN
EG MODEL
SW902
EV-M MODEL
SW901
①
②
③
④
⑤
⑥
⑦

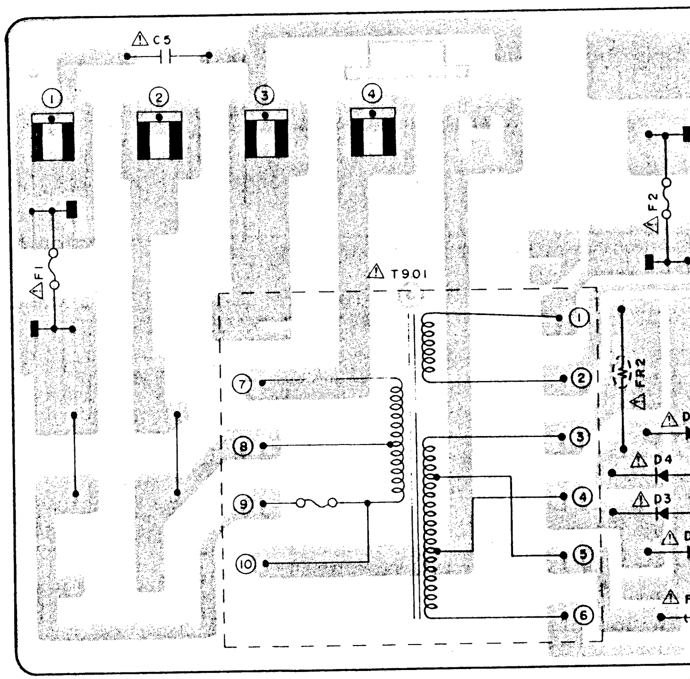
EVM PCB VI047C5060 EG EV-M


②
①
D1
VI047
D5100

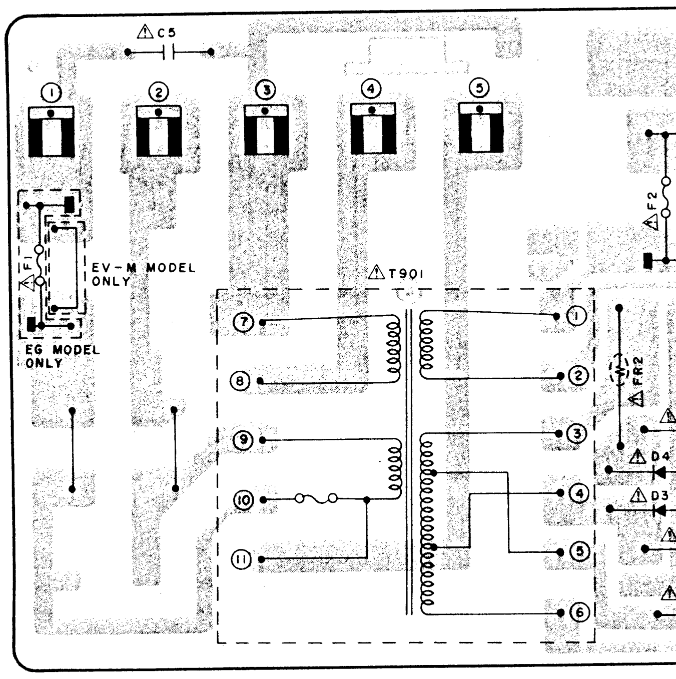
SENSOR LED PCB
VI047D5100


R1
TEST TERMINAL
REC/PB HEAD
S.E HEAD
CTL HEAD
①
②
③
④
⑤
⑥

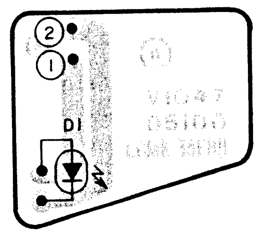
A/C HEAD PCB
VI047D5150


C5
F1
F2
T901
FR2
D4
D3
①
②
③
④
⑥
⑦
⑧
⑨
⑩

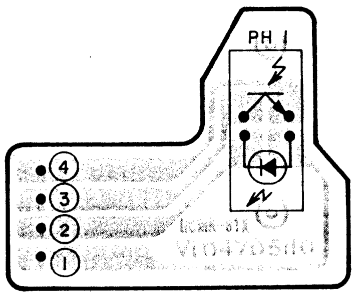
POWER PCB VI047C5030-A


C5
F1
EV-M MODEL ONLY
EG MODEL ONLY
F2
T901
FR2
D4
D3
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪

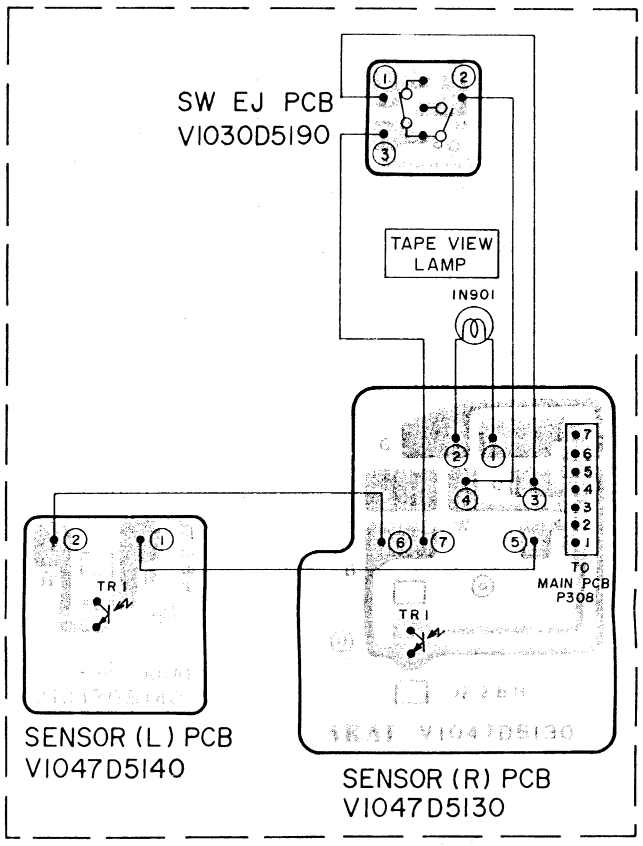
POWER PCB VI047C5030-A



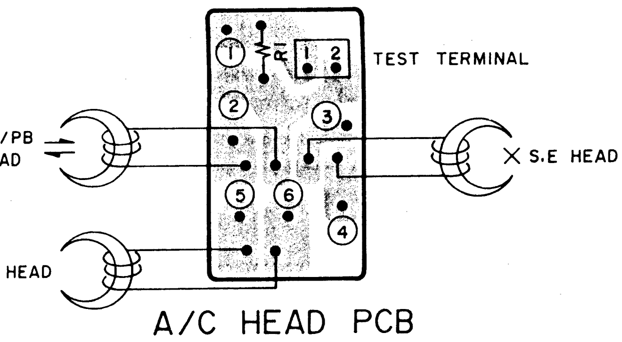
SENSOR LED PCB
V1047D5100



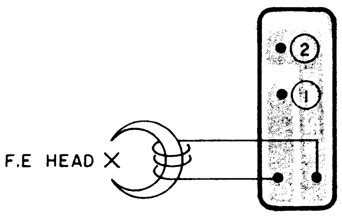
SENSOR REEL PCB
V1047D5110


SW EJ PCB
V1030D5190
TAPE VIEW LAMP
IN901
TR1
TO MAIN PCB P308
SENSOR (L) PCB
V1047D5140
SENSOR (R) PCB
V1047D5130

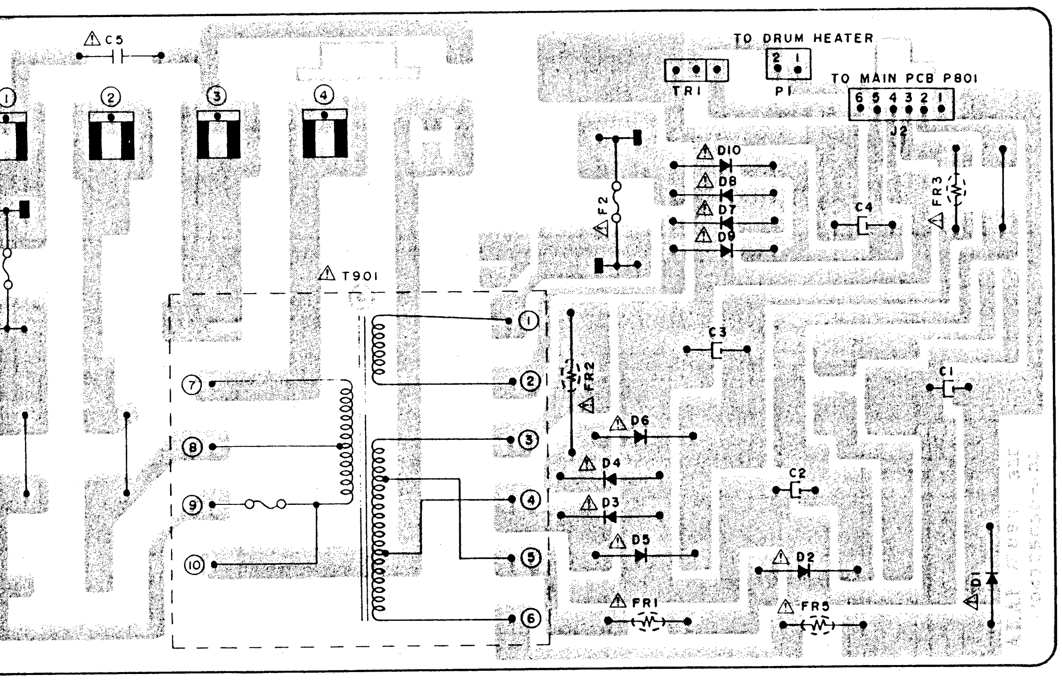
EJECTOR BLOCK


R1
TEST TERMINAL
/PB
AD
S.E HEAD
HEAD

A/C HEAD PCB
V1047D5150



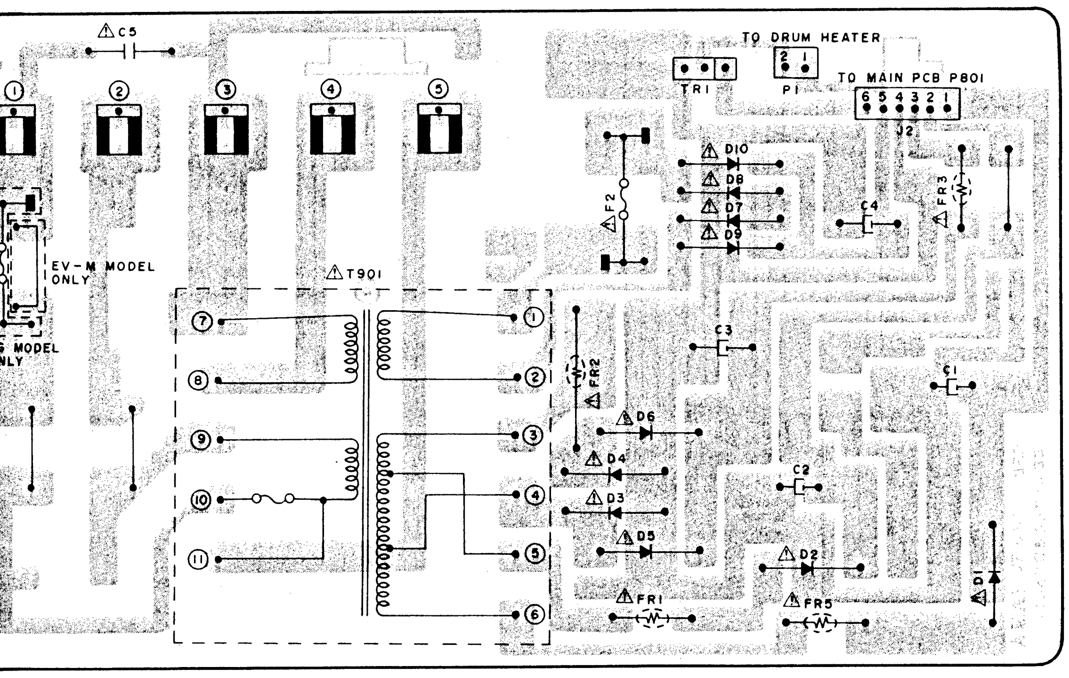
F.E HEAD PCB
V1047D5160


C5
TO DRUM HEATER
TR1
P1
TO MAIN PCB P801
J2
T901
F2
D10
D8
D7
D9
C4
FR3
C3
FR2
C1
D6
D4
D3
D5
C2
D2
FR1
FR5
D1

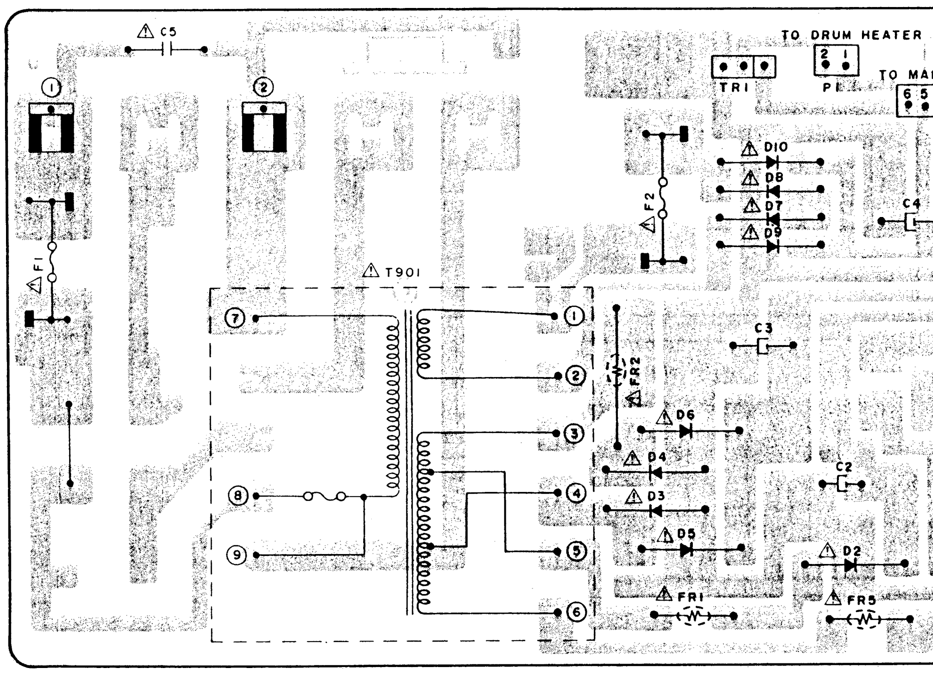
POWER PCB V1047C5030-A EK,ES

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

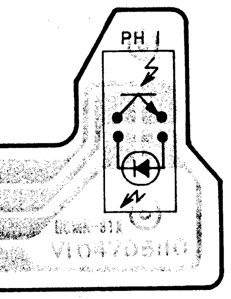
AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT


C5
TO DRUM HEATER
TR1
P1
TO MAIN PCB P801
J2
EV-M MODEL ONLY
MODEL ONLY
T901
F2
D10
D8
D7
D9
C4
FR3
C3
FR2
C1
D6
D4
D3
D5
C2
D2
FR1
FR5
D1

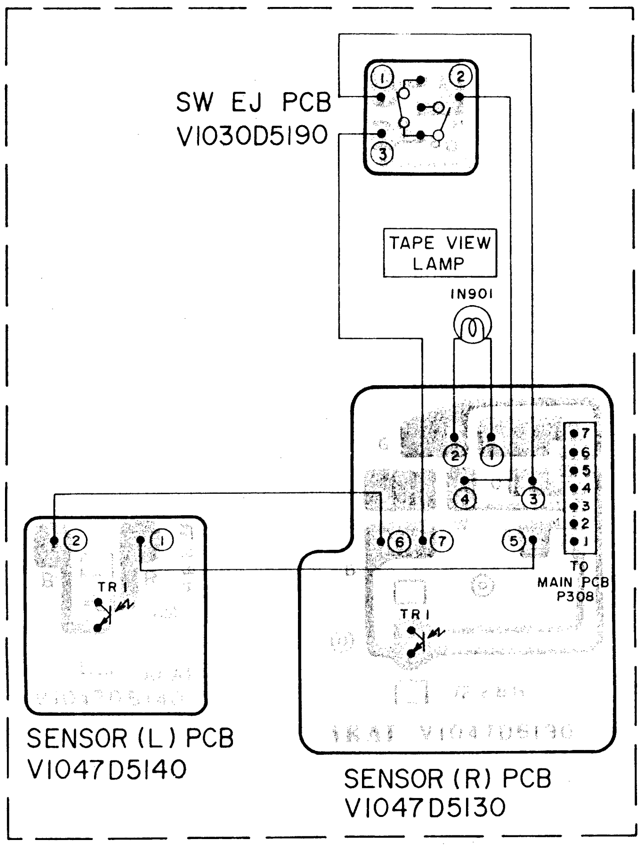
POWER PCB V1047C5030-A EG,EV-M


C5
TO DRUM HEATER
TR1
P1
TO MAI
F1
F2
T901
D10
D8
D7
D9
C4
C3
FR2
D6
D4
D3
D5
C2
D2
FR1
FR5

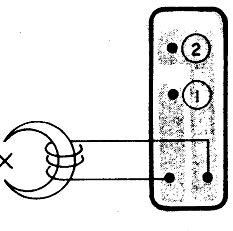
POWER PCB V1047C5030-A EZ


PH 1
V1047D5110

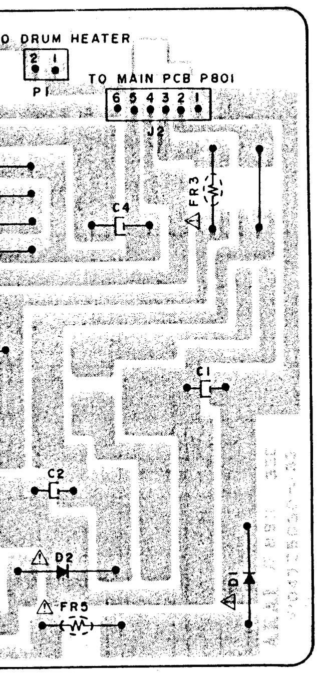
R REEL PCB
5110


SW EJ PCB
V1030D5190
TAPE VIEW LAMP
IN901
TO MAIN PCB P308
TR1
TR1
SENSOR (L) PCB
V1047D5140
SENSOR (R) PCB
V1047D5130

EJECTOR BLOCK



F.E HEAD PCB
V1047D5160


TO DRUM HEATER
P1
TO MAIN PCB P801
J2
C4
FR3
C1
C2
D2
FR5
D1

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

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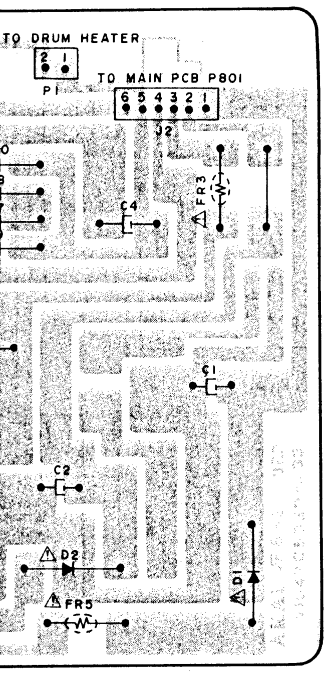
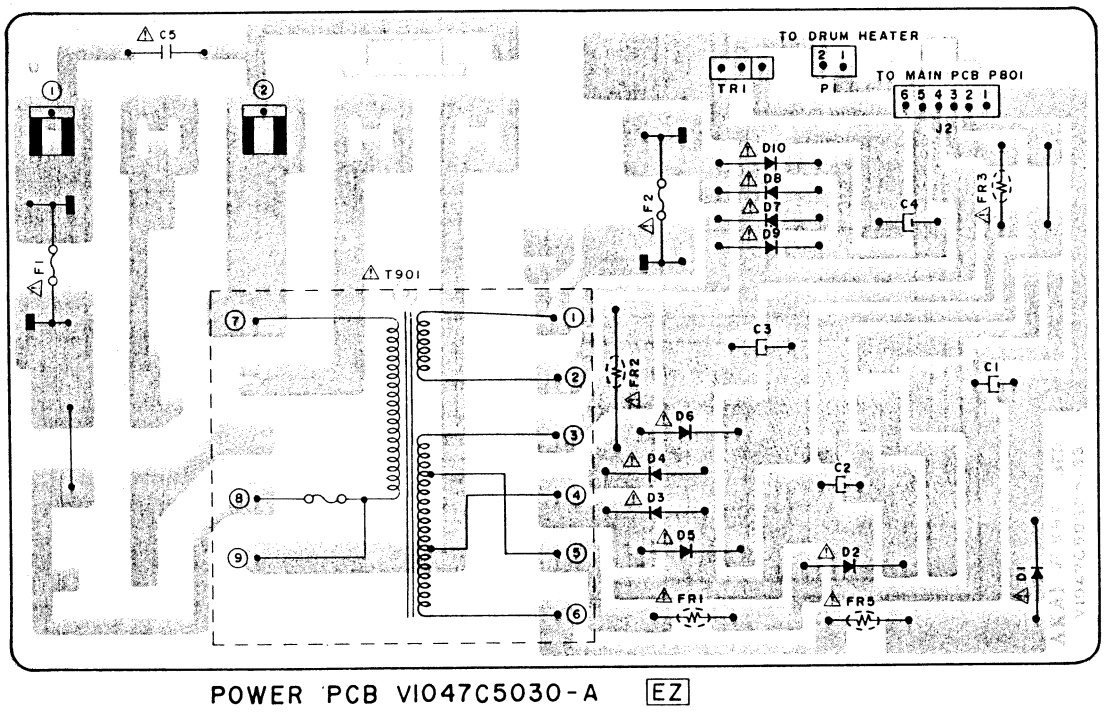
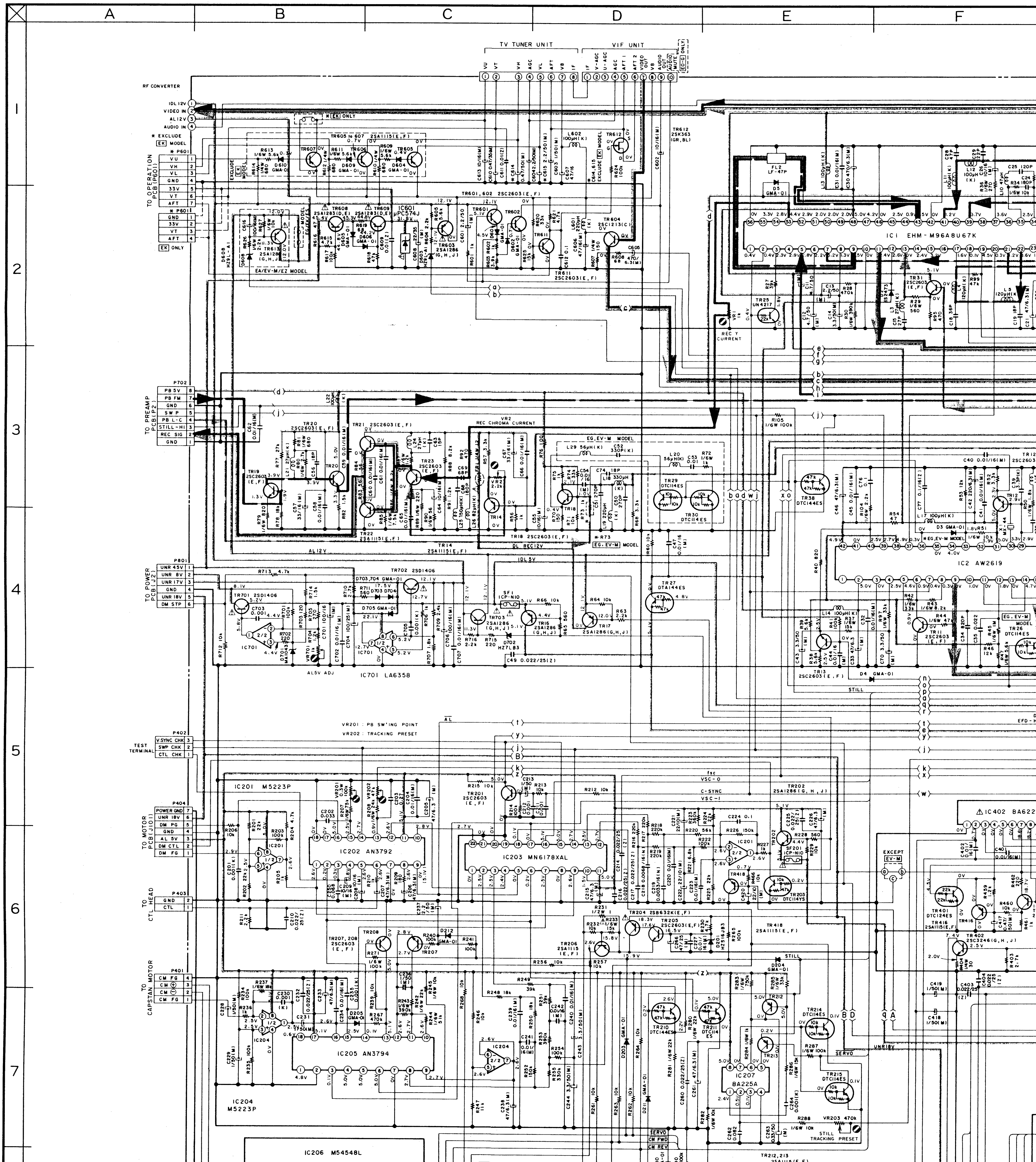

TO DRUM HEATER
P1
TO MAIN PCB P801
J2
C4
FR3
C1
C2
D2
FR5
D1

-M

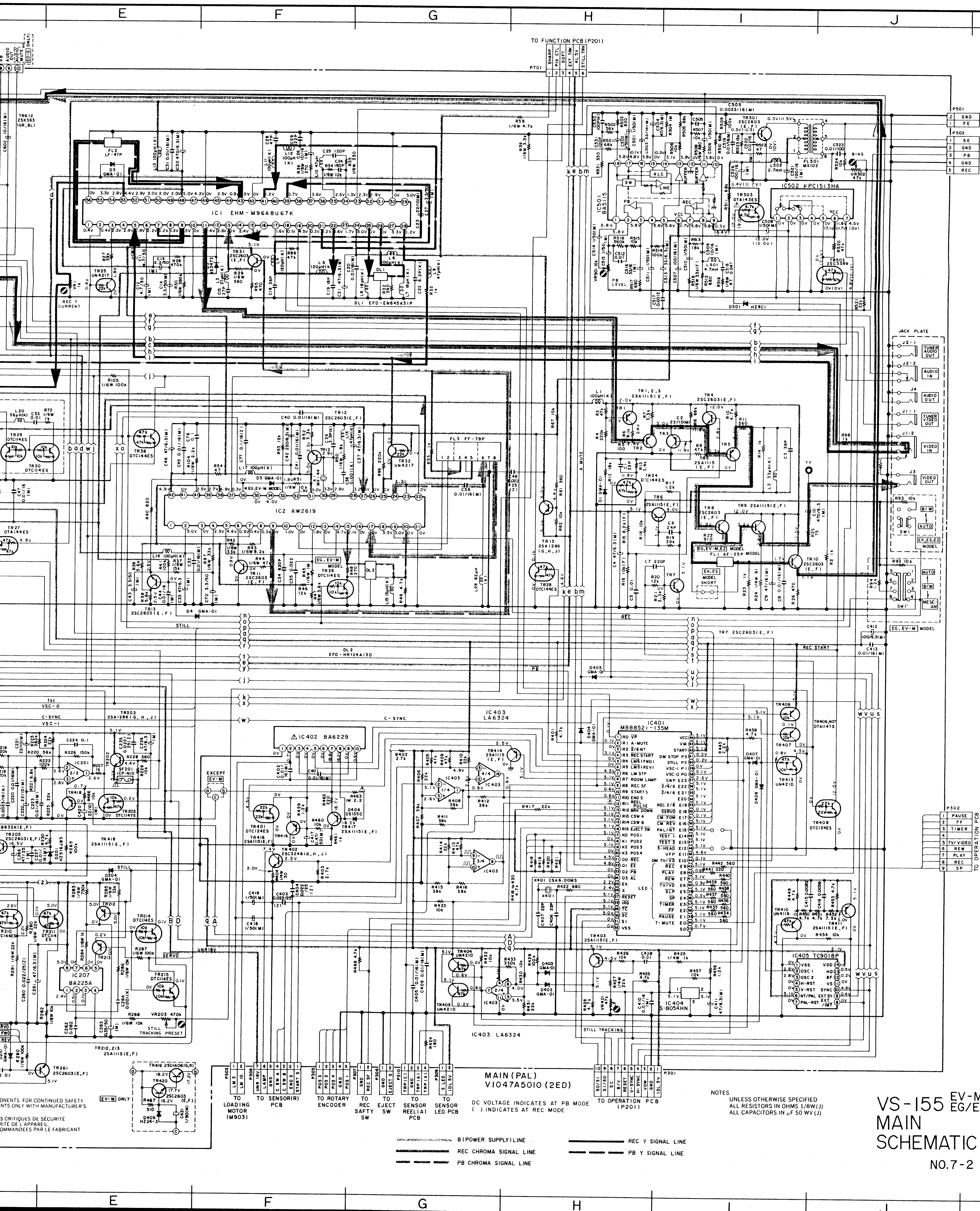

C5
TO DRUM HEATER
TR1
P1
TO MAIN PCB P801
J2
D10
D8
D7
D9
F2
F1
C4
FR3
T901
FR2
C3
C1
D6
D4
D3
D5
FR1
C2
D2
FR5
D1

POWER PCB V1047C5030-A EZ


A
B
C
D
E
F
1
2
3
4
5
6
7
8
TV TUNER UNIT
VIF UNIT
RF CONVERTER
IDL 12V
VIDEO IN
AL 12V
AUDIO IN
* EXCLUDE EK MODEL
TO OPERATION PCB (P601)
VU
VH
VL
GND
33V
VT
AFT
EK ONLY
EA/EV-M/EZ MODEL
TR612 2SK363 (GR, BL)
IC601 µPC574J
TR601, 602 2SC2603 (E, F)
TR611 2SC2603 (E, F)
TR604 2SC1213 (C)
IC1 EHM-M96A8U67K
FL2 LF-47P
VR1 REC Y CURRENT
TR25 UN4217
TR31 2SC2603 (E, F)
TO PREAMP PCB (P2)
P702
PB 5V
PB FM
GND
SWP
PB L-C
STILL-HI
REC SIG
TR19 2SC2603 (E, F)
TR20 2SC2603 (E, F)
TR21 2SC2603 (E, F)
TR22 2SA1115 (E, F)
TR23 2SC2603 (E, F)
VR2 REC CHROMA CURRENT
TR14 2SA1115 (E, F)
TR18 2SC2603 (E, F)
EG, EV-M MODEL
TR29 DTC114ES
TR30 DTC114ES
TR38 DTC144ES
AL 12V
DL REC12V
IDL 5V
TO POWER PCB (J2)
P801
UNR 45V
UNR 8V
UNR 17V
GND
UNR 18V
DM STP
TR701 2SD1406
TR702 2SD1406
TR703 2SA1286 (G, H, J)
TR16 2SA1286 (G, H, J)
TR17 2SA1286 (G, H, J)
TR27 DTA144ES
IC701 LA6358
VR701 AL5V ADJ
SF1 ICP-N10
D702 HZ7LB3
IC2 AW2619
TR13 2SC2603 (E, F)
TR11 2SC2603 (E, F)
TR26 DTC114ES
STILL
VR201 : PB SW'ING POINT
VR202 : TRACKING PRESET
TEST TERMINAL
P402
V.SYNC CHK
SWP CHK
CTL CHK
TO MOTOR PCB (J101)
P404
POWER GND
UNR 18V
DM PG
GND
AL 5V
DM CTL
DM FG
IC201 M5223P
IC202 AN3792
IC203 MN6178XAL
TR201 2SC2603 (E, F)
TR202 2SA1286 (G, H, J)
SF201 ICP-N10
TR203 DTC114YS
TR418 2SA1115 (E, F)
TR204 2SB632K (E, F)
TR205 2SC2603 (E, F)
TR206 2SA1115 (E, F)
TR207, 208 2SC2603 (E, F)
TO CTL HEAD
P403
GND
CTL
TO CAPSTAN MOTOR
P401
CM FG
CM ⊕
CM ⊖
IC204 M5223P
IC205 AN3794
IC207 BA225A
TR210 DTC144ES
TR211 DTC114ES
TR212, 213 2SA1115 (E, F)
TR214 DTC114ES
TR215 DTC114ES
VR203 STILL TRACKING PRESET
SERVO
CM FWD
CM REV
IC206 M54548L
TR261 2SC2603 (E, F)
TR419 2SD1406 (G, R)
TR420 2SC2603 (E, F)
D409 HZ24-3
EV-M ONLY
IC402 BA622
EXCEPT EV-M
TR401 DTC124ES
TR402 2SC3246 (G, H, J)
TR416 2SA1115 (E, F)
UNR 18V
P303
P308
P305
TO LOADING MOTOR (M903)
TO SENSOR (R) PCB
TO ROTARY ENCODER
001860

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.



E
F
G
H
I
J
TO FUNCTION PCB (P201)
SHARP
PIX CTL
SOFT
EXT TRK
AL 5V
STILL TRK
P701
IC1 EHM-M96A8U67K
FL2 LF-47P
D3 GMA-01
DL1 EFD-EN645A31P
TR31 2SC2603 (E,F)
TR25 UN4217
REC Y CURRENT
IC501 BA5115
IC502 μPC1513HA
TR501 2SC2603 (E,F)
TR502 2SC3399
TR503 DTA143ES
FL501 MX102
BIAS
VR502 47k
PB LEVEL
D501 HZ9C1
P501
GND
FE
P502
SE
GND
PB
GND
REC
JACK PLATE
TUNER AUDIO OUT
AUDIO IN
AUDIO OUT
TUNER VIDEO OUT
VIDEO IN
VIDEO OUT
IC2 AW2619
FL3 FF-78P
TR12 2SC2603 (E,F)
TR32 UN4217
TR38 DTC144ES
TR29 DTC114ES
TR30 DTC114ES
TR27 DTA144ES
TR11 2SC2603 (E,F)
TR13 2SC2603 (E,F)
TR26 DTC114ES
DL2
D4 GMA-01
TR1,2,3 2SA1115 (E,F)
TR4 2SC2603 (E,F)
TR5 2SA1115 (E,F)
TR24 DTC144ES
TR6 2SA1115 (E,F)
TR8 2SC2603
TR9 2SA1115 (E,F)
TR10 2SC2603 (E,F)
TR15 2SA1286 (G,H,J)
TR28 DTC144ES
FL1 AF-25P MODEL
EG,EV-M,EZ MODEL
EK,ES MODEL SHORT
TP
SW1
SW1'
EK,ES,EZ MODEL
EG,EV-M MODEL
TR7 2SC2603 (E,F)
DL2 EFD-HR124A13D
STILL
REC
PB
REC START
D405 GMA-01
fsc
VSC-0
C-SYNC
VSC-1
TR202 2SA1286 (G,H,J)
IC201
SF201 ICP-N10
TR418
TR203 DTC114YS
TR205 2SC2603 (E,F)
TR418 2SA1115 (E,F)
D201 HZ5.1B3
IC402 BA6229
EXCEPT EV-M
IC403 LA6324
TR414 2SA1115 (E,F)
TR401 DTC124ES
TR416 2SA1115 (E,F)
TR417 2SA1115 (E,F)
D406 DS130
TR402 2SC3246 (G,H,J)
IC401 MB88521-135M
D404 GMA-01
X401 CSA6.00MS
LED
D407 GMA-01
D408 GMA-01
TR406
TR407
TR406,407 DTA114TS
TR413 UN4210
TR408 DTC124ES
P302
PAUSE
FF
TIMER
TV/VIDEO
REW
PLAY
REC
SP
TO OPERATION PCB
TR410 UN4116
TR411 2SA1115 (E,F)
IC405 TC9018P
TR403 2SA1115 (E,F)
IC404 S-8054HN
TR404 UN4210
TR405 UN4210
D402 GMA-01
D403 GMA-01
TR210 DTC144ES
TR211 DTC114ES
TR212
TR213
TR214 DTC114ES
TR215 DTC114ES
IC207 BA225A
VR203 470k
STILL TRACKING PRESET
TR212,213 2SA1115 (E,F)
TR261 2SC2603 (E,F)
D204 GMA-01
D210 GMA-01
EV-M ONLY
TR419 2SD1406 (G,R)
TR420 2SC2603 (E,F)
D409 HZ24-3
STILL TRACKING
P303
LM 2
LM 10
P308
UNR 18V
LAMP
LAMP
C SW A
C SW B
END S
START S
P305
POS 3
POS 2
POS 4
GND
POS 1
P307
GND
REC SF
P306
GND
EJECT S
P310
TRP (C)
GND
TRP (A)
TRP (K)
P309
S LED
IDL 5V
P301
S0/S1
S1/S0
SC
B/V
RESET
V-SYNC
H-SYNC
VOW
GND
IDL 5V
TO LOADING MOTOR (M903)
TO SENSOR (R) PCB
TO ROTARY ENCODER
TO REC SAFTY SW
TO EJECT SW
TO SENSOR REEL (A) PCB
TO SENSOR LED PCB
TO OPERATION PCB (P201)

ONENTS FOR CONTINUED SAFETY.
NTS ONLY WITH MANUFACTURER'S

S CRITIQUES DE SÉCURITÉ
RITÉ DE L'APPAREIL,
OMMANDEES PAR LE FABRICANT

MAIN (PAL)
V1047A5010 (2ED)

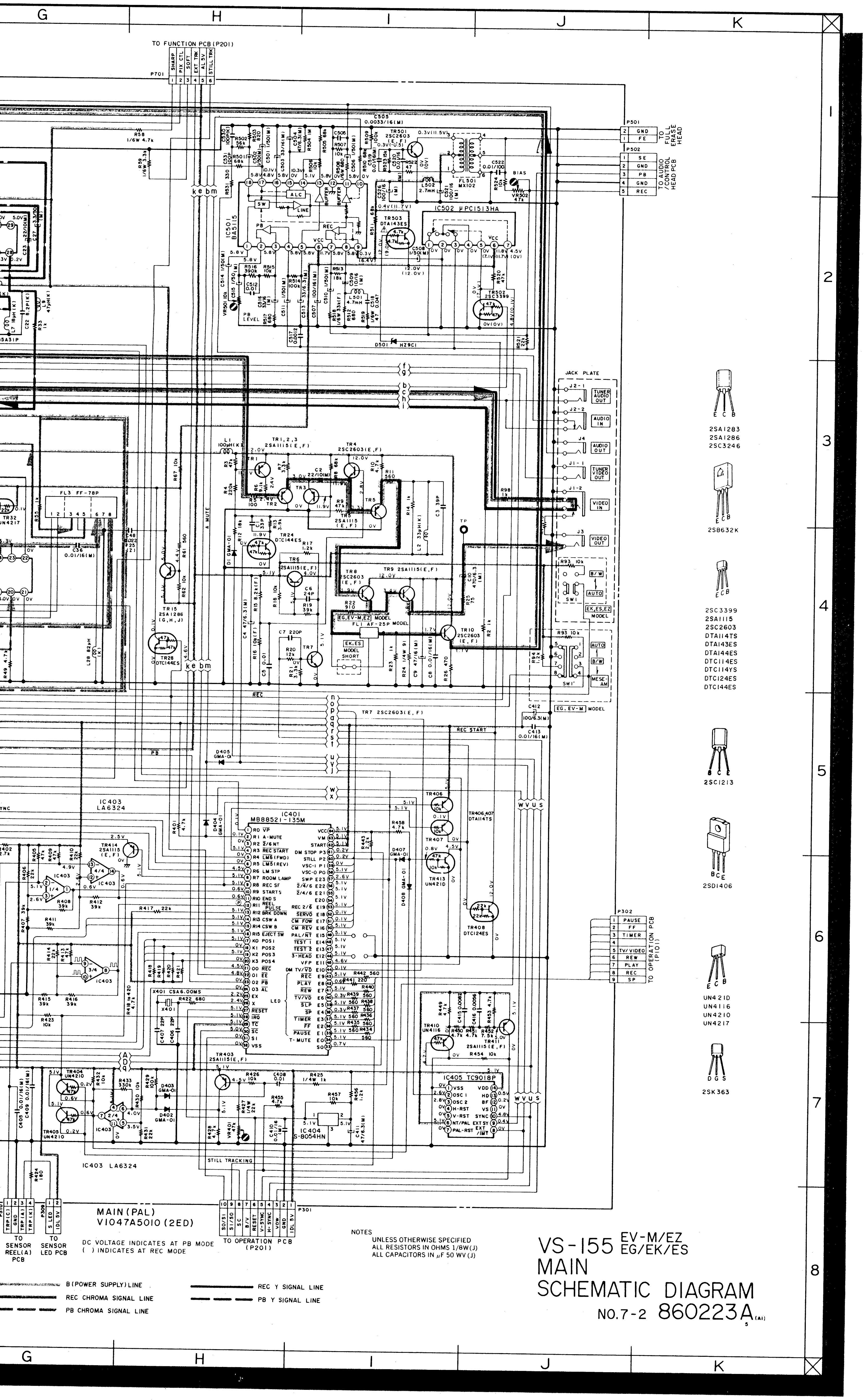
DC VOLTAGE INDICATES AT PB MODE
( ) INDICATES AT REC MODE

NOTES
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W (J)
ALL CAPACITORS IN μF 50 WV (J)

▨	B (POWER SUPPLY) LINE
▬	REC CHROMA SIGNAL LINE
▬ ▬ ▬	PB CHROMA SIGNAL LINE
—	REC Y SIGNAL LINE
— — —	PB Y SIGNAL LINE

VS-155 EV-M EG/E
MAIN SCHEMATIC

NO.7-2


G
H
I
J
K
1
2
3
4
5
6
7
8
TO FUNCTION PCB (P201)
P701
SHARP
PIX CTL
SOFT
EXT TRK
AL 5V
STILL TRK
P501
GND
FE
TO FULL ERASE HEAD
P502
SE
GND
PB
GND
REC
TO AUDIO /CONTROL HEAD PCB
IC501 BA5115
IC502 μPC1513HA
TR501 2SC2603 (E,F)
TR502 2SC3399
TR503 DTA143ES
FL501 MX102
BIAS
VR502
D501 HZ9C1
JACK PLATE
J2-1 TUNER AUDIO OUT
J2-2 AUDIO IN
J4 AUDIO OUT
J1-1 TUNER VIDEO OUT
J1-2 VIDEO IN
J3 VIDEO OUT
SW1
B/W
AUTO
EK,ES,EZ MODEL
SW1'
MESE-AM
EG, EV-M MODEL
TR1,2,3 2SA1115 (E,F)
TR4 2SC2603 (E,F)
TR6 2SA1115 (E,F)
TR8 2SC2603 (E,F)
TR9 2SA1115 (E,F)
TR10 2SC2603 (E,F)
TR15 2SA1286 (G,H,J)
TR24 DTC144ES
TR28 DTC144ES
FL1 AF-25P
EG,EV-M,EZ MODEL
EK,ES MODEL SHORT
FL3 FF-78P
IC401 MB88521-135M
IC403 LA6324
IC404 S-8054HN
IC405 TC9018P
TR403 2SA1115 (E,F)
TR404 UN4210
TR405 UN4210
TR406,407 DTA114TS
TR408 DTC124ES
TR410 UN4116
TR411 2SA1115 (E,F)
TR413 UN4210
TR414 2SA1115 (E,F)
X401 CSA6.00MS
P302
PAUSE
FF
TIMER
TV/VIDEO
REW
PLAY
REC
SP
TO OPERATION PCB (P101)
STILL TRACKING
P301
TO OPERATION PCB (P201)
TO SENSOR REEL(A) PCB
TO SENSOR LED PCB
2SA1283
2SA1286
2SC3246
2SB632K
2SC3399
2SA1115
2SC2603
DTA114TS
DTA143ES
DTA144ES
DTC114ES
DTC114YS
DTC124ES
DTC144ES
2SC1213
2SD1406
UN4210
UN4116
UN4210
UN4217
2SK363

MAIN (PAL)
V1047A5010 (2ED)

DC VOLTAGE INDICATES AT PB MODE
( ) INDICATES AT REC MODE

NOTES
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W(J)
ALL CAPACITORS IN μF 50 WV(J)

VS-155 EV-M/EZ EG/EK/ES
MAIN
SCHEMATIC DIAGRAM
NO.7-2 860223A (A1)

B (POWER SUPPLY) LINE
REC CHROMA SIGNAL LINE
PB CHROMA SIGNAL LINE
REC Y SIGNAL LINE
PB Y SIGNAL LINE

LOCATION OF COMPORNENT

IC's

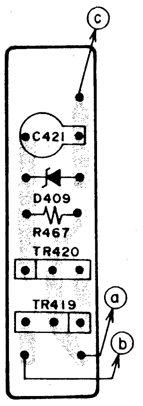
IC	Location
IC1	B4
IC2	E4
IC201	F1
IC202	F2
IC203	G2
IC204	G1
IC205	GH1
IC206	H1
IC207	H3
IC401	H5
IC402	H4
IC403	G5
IC404	H6
IC405	G6
IC501	D2
IC502	E2
IC601	B2
IC701	D6

CONNECTOR's

Connector	Location
P301	H6
P302	H5
P303	H4
P305	G5
P306	G5
P307	G4
P308	F5, 6
P309	F4
P310	F4
P401	H1
P402	F, G3
P403	F, G2
P404	F1
P501	E3
P502	E2
P601	B, C2
P701	E3
P702	C, D3
P801	D6

TRANSISTOR's

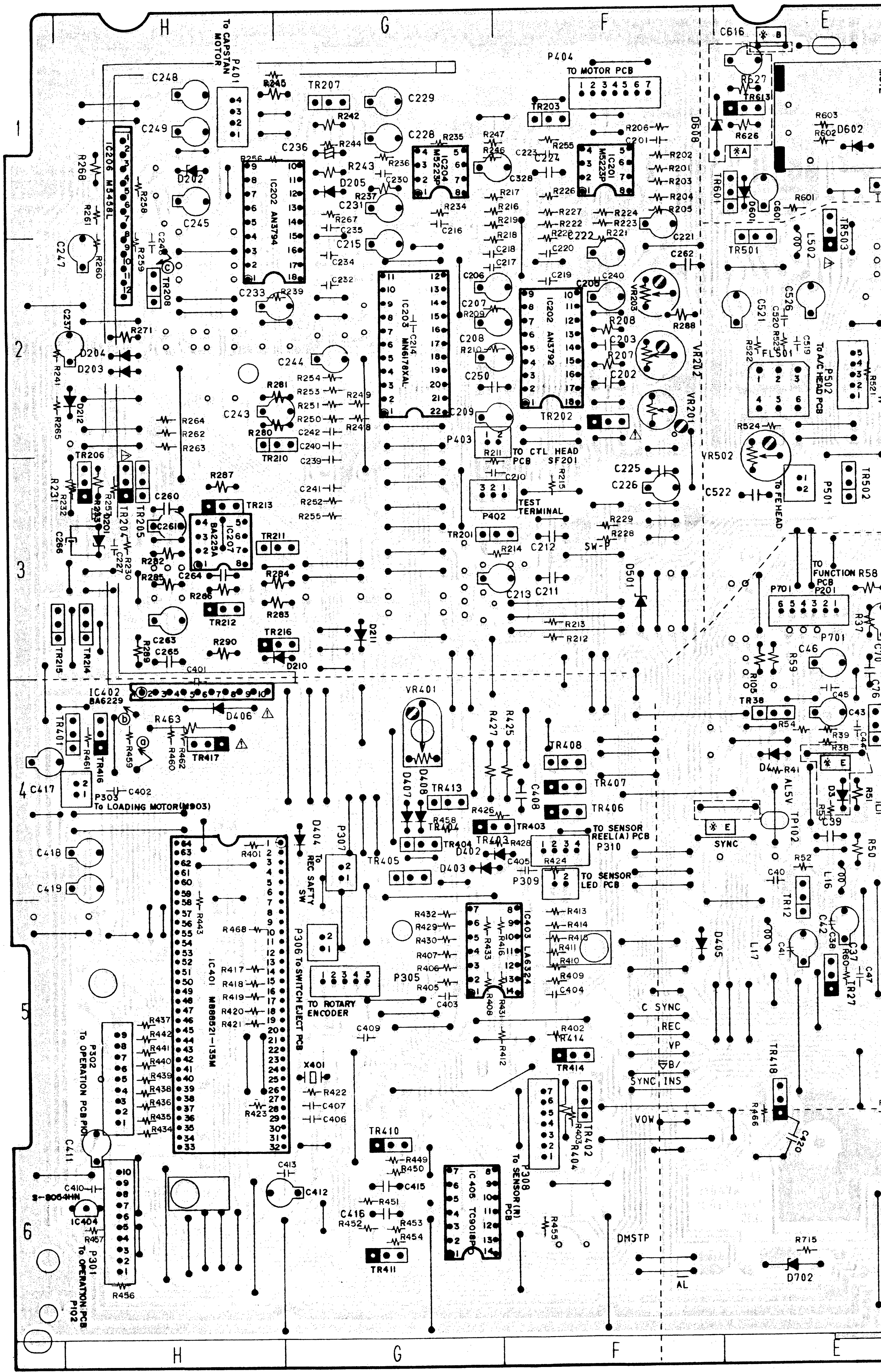
Transistor	Location
TR1	C5, 6
TR2	C5
TR3	C5
TR4	C5
TR5	B5
TR6	B5, 6
TR7	B5, 6
TR8	B5
TR9	B5
TR10	B5
TR11	D4
TR12	E4, 5
TR13	E4
TR14	D4
TR15	D5, 6
TR16	D5
TR17	C5
TR18	C4
TR19	C4
TR20	C3
TR21	D3
TR22	D3
TR23	D4
TR24	C, D5
TR25	B, C5
TR26	D4
TR27	E5
TR28	E6
TR29	C4
TR30	C4
TR31	B, C4
TR32	E5
TR38	E4
TR201	FG3
TR202	F2
TR203	F1
TR204	H3
TR205	H3
TR206	H3
TR207	G1
TR208	H2
TR210	G, H2
TR211	G, H3
TR212	H3
TR213	H3
TR214	H3
TR215	H3
TR216	G, H3
TR401	H4
TR402	F5
TR403	F, G4
TR404	G4
TR405	G4
TR406	F4
TR407	F4
TR408	F4
TR410	G6
TR411	G6
TR413	G4
TR414	F5
TR416	H4
TR417	H4
TR418	E5, 6
TR501	E2
TR502	E3
TR503	E1, 2
TR601	E1
TR602	E1
TR603	C2
TR604	C1
TR605	C1, 2
TR606	B1, 2
TR607	B1, 2
TR608	B2
TR609	B2
TR611	B2
TR612	B1
TR613	E1
TR701	B6
TR702	B6
TR703	D, E6

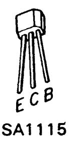

c
C421
D409
R467
TR420
TR419
a
b

SUB(3)PCB
V1047D5250

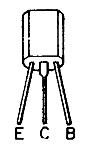
ADJUSTMENT VOLUME's

VR NO.	LOCATION	ADJUSTMENT ITEM
VR1	D3	Y REC CURRENT
VR2	D3	CHROMA REC CURRENT
VR201	E2	PB SWITCHING POINT
VR202	E2	TRACKING PRESET
VR203	E2	STILL TRACKING PRESET
VR401	G4	VERTICAL STABILITY
VR501	D3	PB AUDIO LEVEL
VR502	E2, 3	AUDIO BIAS CURRENT
VR701	A6	AL 5 VOLT

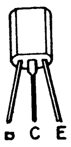

H
G
F
E
1
2
3
4
5
6
P401 To CAPSTAN MOTOR
P404 TO MOTOR PCB
IC206 M5218L
IC202 AN3794
IC204 M5223P
IC201 M5223P
IC203 MN6178AL
IC202 AN3792
IC207 BA225A
IC402 BA6229
IC401 MB88521-135M
IC403 LA6324
IC405 TC9018P
IC404 S-8054HN
P403 TO CTL HEAD PCB SF201
P402 TEST TERMINAL
P303 To LOADING MOTOR(M903)
P307 To REC SAFTY SW
P306 To SWITCH EJECT PCB
P305 TO ROTARY ENCODER
P310 TO SENSOR REEL(A) PCB
P309 TO SENSOR LED PCB
P308 To SENSOR(R) PCB
P302 To OPERATION PCB P101
P301 To OPERATION PCB P102
P502 To A/C HEAD PCB
P501 To FE HEAD
P701 TO FUNCTION PCB P201
VR401
VR502
VR201
VR202
VR203
X401
C SYNC
REC
VP
B/
SYNC, INS
VOW
DMSTP
AL
SW-P
SYNC
ALSV
TP102
D702



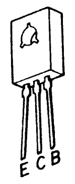
2SA1115
2SC2603
2S3399
DTA114TS
DTA143ES
DTA144ES
DTC114ES
DTC114YS
DTC124ES
DTC144ES



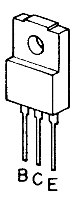
2SA1283
2SA1286
2SC3246



2SC1213



2SB632K



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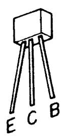
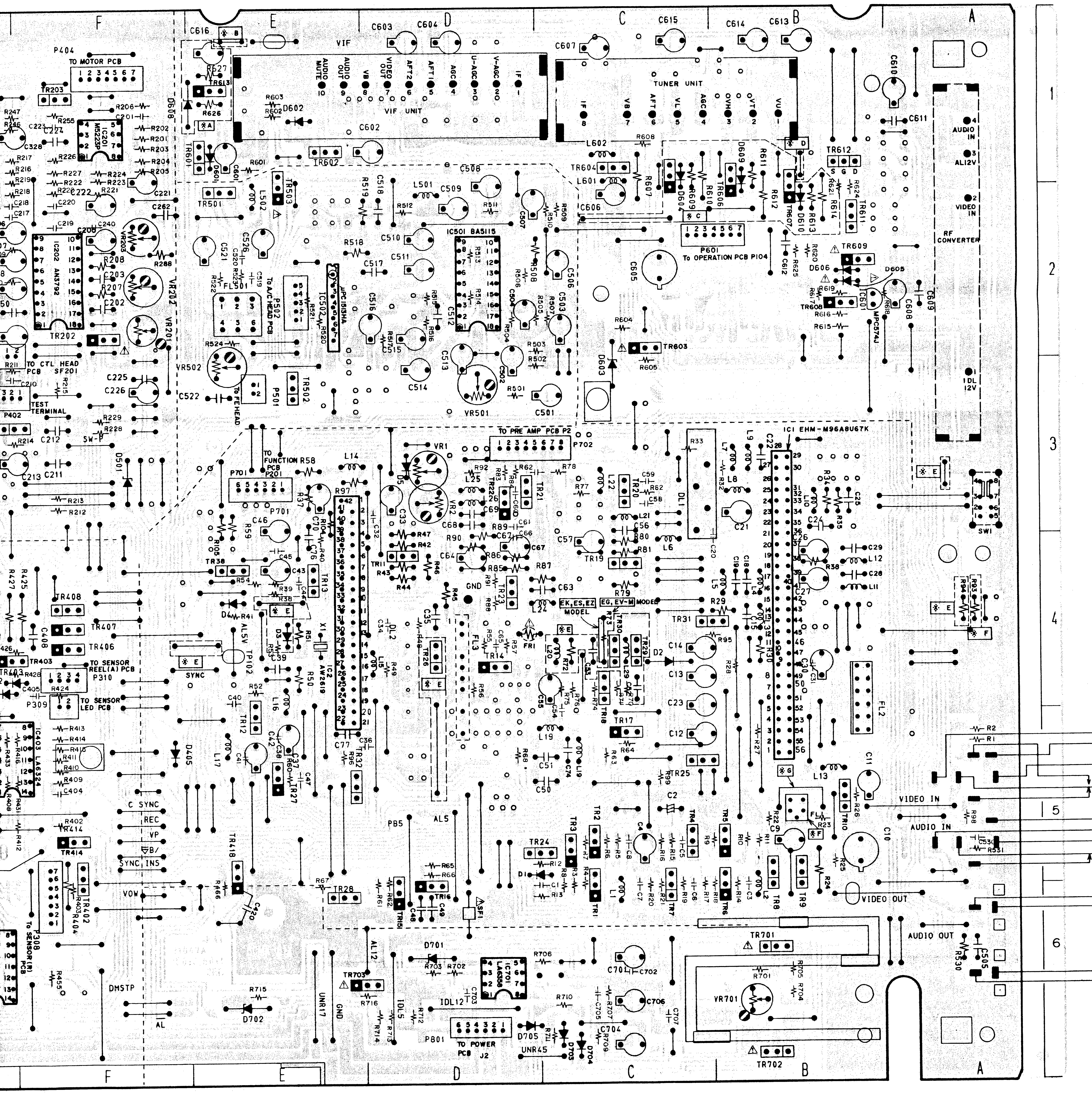


UN421D
UN4116
UN4210
UN4217

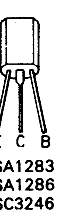
B
●|●● = NPN TRANSISTOR

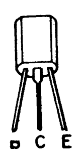
B
■|●● = PNP TRANSISTOR

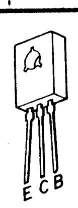

F
E
D
C
B
A
1
2
3
4
5
6
P404
TO MOTOR PCB
1 2 3 4 5 6 7
VIF
AUDIO MUTE 10
AUDIO OUT 9
VB 8
VIDEO OUT 7
AFT2 6
AFT 5
AGC 4
U-AGC 3
V-AGC 2
IF 1
VIF UNIT
TUNER UNIT
IF 8
VB 7
AFT 6
VL 5
AGC 4
OVH 3
VT 2
VU 1
C603
C604
C607
C615
C614
C613
C610
C611
C616
C602
D602
TR613
TR601
TR602
TR604
TR606
TR607
TR612
S G D
TR611
L602
R608
L601
C606
P601
1 2 3 4 5 6 7
To OPERATION PCB P104
C605
TR609
D606
D605
TR608
MPC574J
AUDIO IN 4
ALI2V 3
VIDEO IN 2
RF CONVERTER
IDL 12V 1
IC201 M5223P
IC202 AN3792
VR203
VR202
VR201
TR202
TR203
TO CTL HEAD PCB
SF201
TEST TERMINAL
P402
SW-P
D501
TR501
TR503
L502
L501
C509
C508
IC501 BA5115
IC502 μPC1515HA
FL501
P502 To A/C HEAD PCB
VR502
VR501
P501
To FE HEAD
TR502
C522
C501
TR603
D603
R604
R605
TO PRE AMP PCB P2
1 2 3 4 5 6 7 8
P702
TO FUNCTION PCB P201
P701
6 5 4 3 2 1
VR1
VR2
L14
L25
IC2 AW2619
X1
TP102
SYNC
ALSV
IC1 EHM-M96A8U67K
DL1
L8
L9
L10
L6
L5
SW1
FL2
FL3
FR1
EK,ES,EZ MODEL
EG,EV-M MODEL
GND
TR408
TR407
TR406
TR403
TO SENSOR REEL(A) PCB
P310
TO SENSOR LED PCB
P309
IC403 LA6324
TR414
TR418
TR402
P308
To SENSOR(R) PCB
C SYNC
REC
VP
B/
SYNC,INS
VOW
DMSTP
AL
AL12
AL5
PB5
TR703
IDL5
IDL12
IC701 LA8358
D701
D702
P801
TO POWER PCB J2
6 5 4 3 2 1
UNR17
GND
UNR45
D705
D703
D704
TR701
TR702
VR701
R701
VIDEO IN
AUDIO IN
VIDEO OUT
AUDIO OUT
TR28
TR24
TR17
TR25
TR31
TR14
TR26
TR30
TR29
TR18
TR19
TR20
TR21
TR22
TR23
TR32
TR27
TR12
TR13
TR11
TR38
TR1
TR2
TR3
TR4
TR5
TR6
TR7
TR8
TR9
TR10
TR15
TR16
L13
L19
C10
C11
FL1
※A
※B
※C
※D
※E
※F
※G

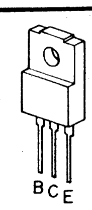
MAIN PCB V1047A5010 (2ED)

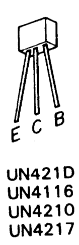
ALL THE CHIP PART'S CONNECTED ON THE PATTERN SIDE THEY ARE INDICATED BY —W— ⊣⊢ MARKS

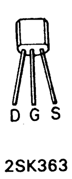

C B
SA1283
SA1286
C3246


B C E
2SC1213


E C B
2SB632K


B C E
2SD1406


E C B
UN421D
UN4116
UN4210
UN4217

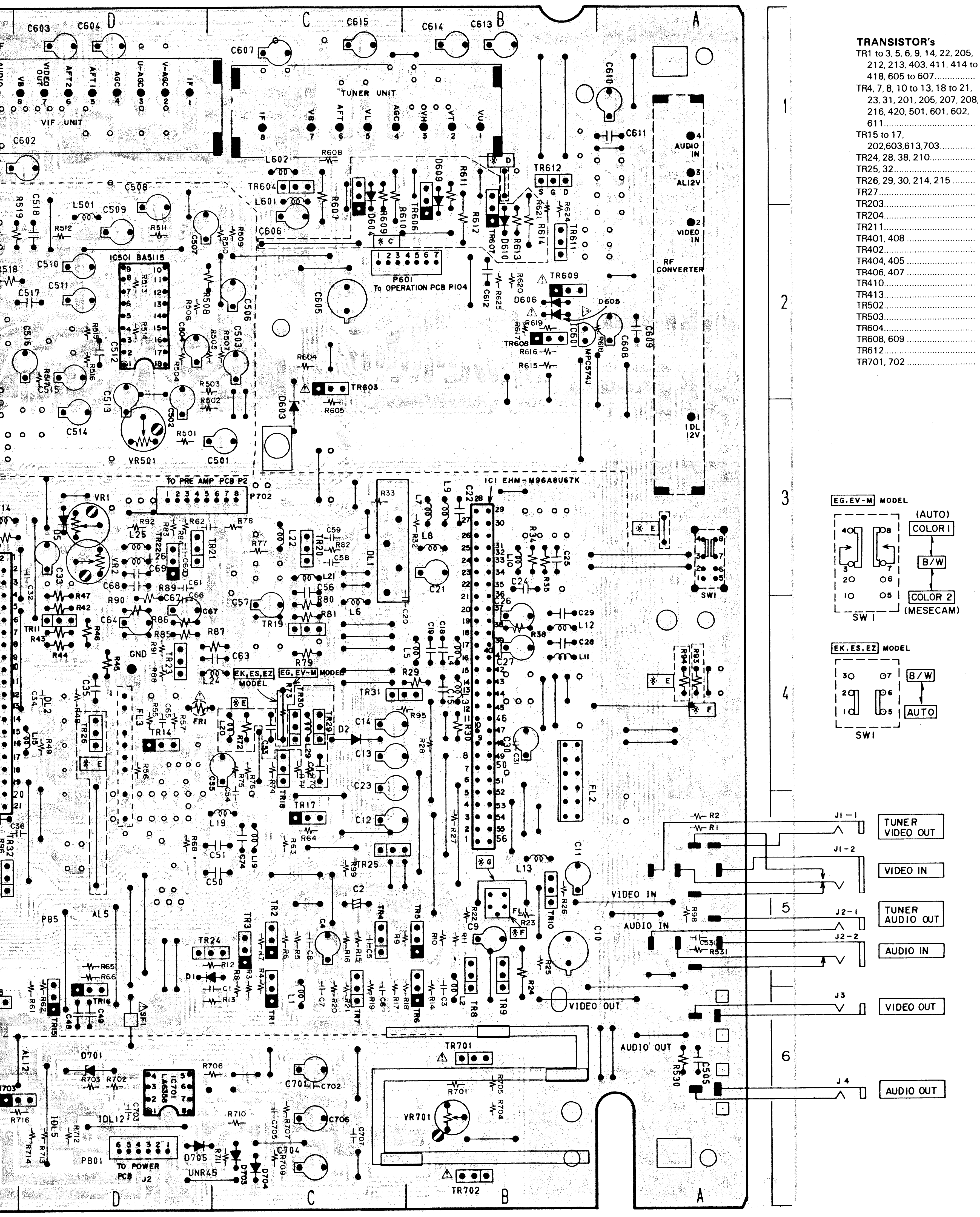


WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY,
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S
RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL,
NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

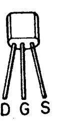
NOTE ※M

MARK
※A
※B
※C
※D
※E
※F
※G


TUNER VIDEO OUT
VIDEO IN
TUNER AUDIO OUT
AUDIO IN
VIDEO OUT
AUDIO OUT
J1-1
J1-2
J2-1
J2-2
J3
J4
TUNER UNIT
VIF UNIT
RF CONVERTER
AUDIO IN
AL12V
VIDEO IN
IDL 12V
P601 To OPERATION PCB P104
TO PRE AMP PCB P2
TO POWER PCB J2
IC1 EHM-M96A8U67K
IC501 BA5115
IC701 LA5356
MPC574J
EG, EV-M MODEL
(AUTO)
COLOR 1
B/W
COLOR 2
(MESECAM)
SW1
EK, ES, EZ MODEL
B/W
AUTO
SW1
A
B
C
D
1
2
3
4
5
6

TRANSISTOR's

TR1 to 3, 5, 6, 9, 14, 22, 205, 212, 213, 403, 411, 414 to 418, 605 to 607	2SA1115 (E,F,G)
TR4, 7, 8, 10 to 13, 18 to 21, 23, 31, 201, 205, 207, 208, 216, 420, 501, 601, 602, 611	2SC2603 (G)
TR15 to 17, 202,603,613,703	2SA1286 (G,H,J)
TR24, 28, 38, 210	DTC144ES
TR25, 32	UN4217
TR26, 29, 30, 214, 215	DTC114ES
TR27	DTA144ES
TR203	DTC114YS
TR204	2SB632K
TR211	DTC114TS
TR401, 408	DTC124ES
TR402	2SC3246 (G,H,J)
TR404, 405	UN4210
TR406, 407	DTA114TS
TR410	UN4116
TR413	UN421D
TR502	2SC3399
TR503	DTA143ES
TR604	2SC1213C
TR608, 609	2SA1283 (D,E)
TR612	2SK363 (GR,BL)
TR701, 702	2SD1406 (GR)



2SK363

MAIN PCB V1047A5010 (2ED)

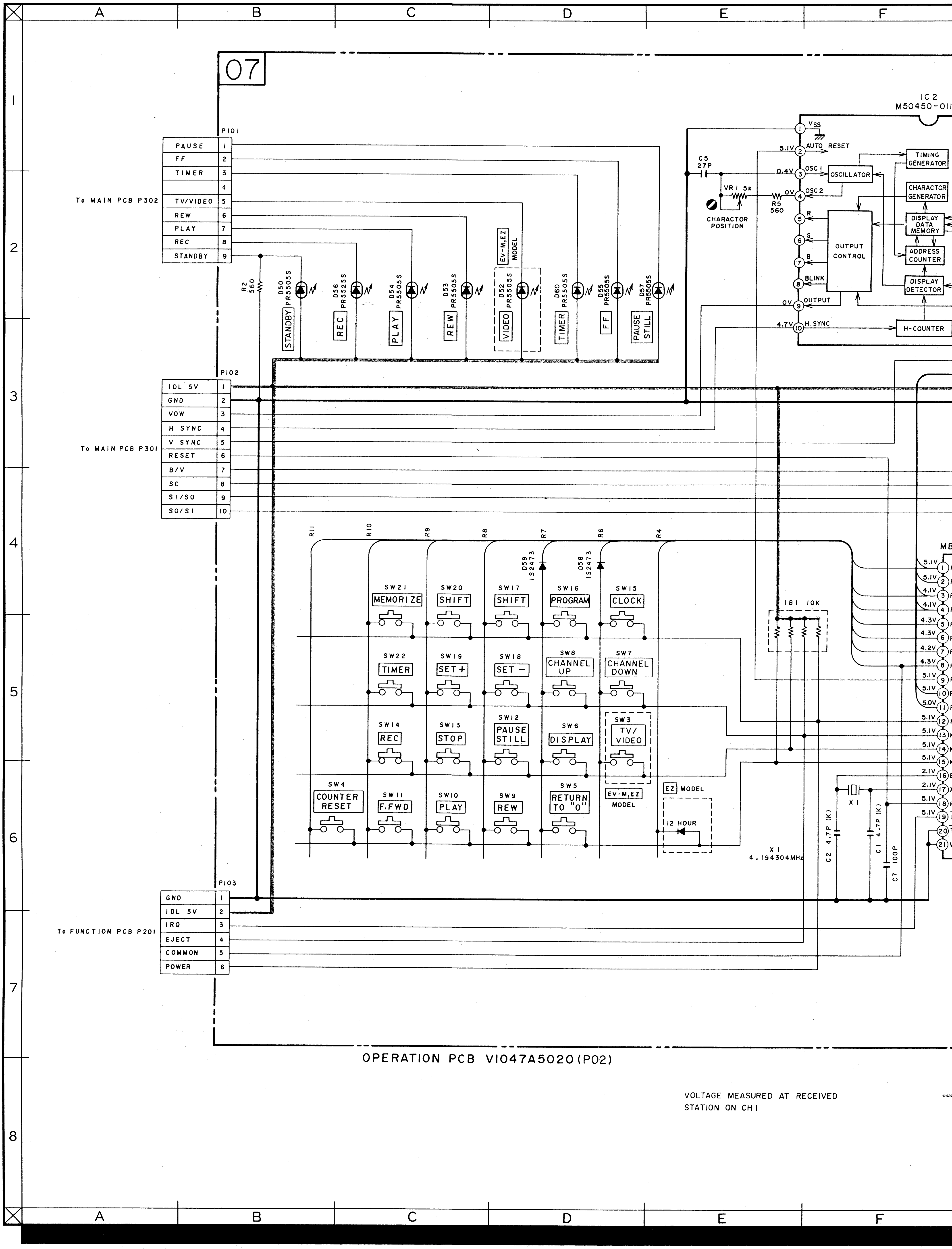
ALL THE CHIP PART'S CONNECTED ON THE PATTERN SIDE THEY ARE INDICATED BY —W— —|⊢ MARKS

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

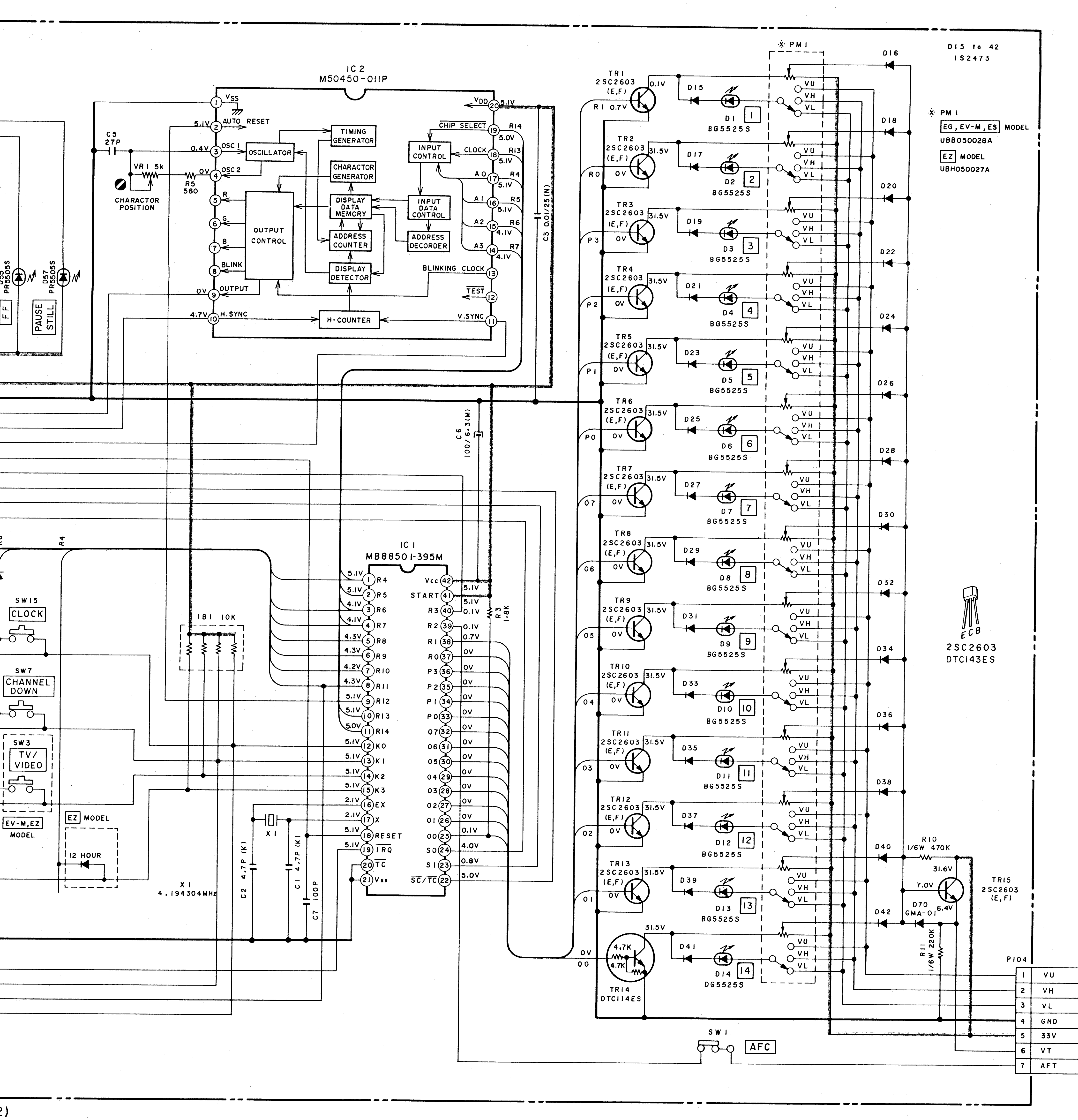
NOTE ※MARK

MARK	DESTINATION
※A	EV-M EZ model only
※B	EG, EK, ES model only
※C	EG, ES, EV-M, EZ model only
※D	EK model only
※E	EG, EV-M model only
※F	EK, ES model only
※G	EG, EV-M, EZ model only


A
B
C
D
E
F
1
2
3
4
5
6
7
8
07
P101
To MAIN PCB P302
PAUSE 1
FF 2
TIMER 3
4
TV/VIDEO 5
REW 6
PLAY 7
REC 8
STANDBY 9
R2 560
D50 PR5505S STANDBY
D56 PR5525S REC
D54 PR5505S PLAY
D53 PR5505S REW
EV-M,EZ MODEL
D52 PR5505S VIDEO
D60 PR5505S TIMER
D55 PR5505S FF
D57 PR5505S PAUSE STILL
P102
To MAIN PCB P301
IDL 5V 1
GND 2
VOW 3
H SYNC 4
V SYNC 5
RESET 6
B/V 7
SC 8
SI/SO 9
SO/SI 10
C5 27P
VR1 5k
CHARACTOR POSITION
R5 560
IC2 M50450-011
VSS
AUTO RESET
OSC1
OSC2
R
G
B
BLINK
OUTPUT
H.SYNC
5.1V
0.4V
0V
0V
4.7V
OSCILLATOR
OUTPUT CONTROL
TIMING GENERATOR
CHARACTOR GENERATOR
DISPLAY DATA MEMORY
ADDRESS COUNTER
DISPLAY DETECTOR
H-COUNTER
R11
R10
R9
R8
R7
R6
R4
D59 1S2473
D58 1S2473
SW21 MEMORIZE
SW20 SHIFT
SW17 SHIFT
SW16 PROGRAM
SW15 CLOCK
SW22 TIMER
SW19 SET+
SW18 SET −
SW8 CHANNEL UP
SW7 CHANNEL DOWN
SW14 REC
SW13 STOP
SW12 PAUSE STILL
SW6 DISPLAY
SW3 TV/VIDEO
EV-M,EZ MODEL
SW4 COUNTER RESET
SW11 F.FWD
SW10 PLAY
SW9 REW
SW5 RETURN TO "0"
EZ MODEL
12 HOUR
RB1 10K
X1
X1 4.194304MHz
C2 4.7P (K)
C1 4.7P (K)
C7 100P
MB
5.1V
5.1V
4.1V
4.1V
4.3V
4.3V
4.2V
4.3V
5.1V
5.1V
5.0V
5.1V
5.1V
5.1V
5.1V
2.1V
2.1V
5.1V
5.1V
P103
To FUNCTION PCB P201
GND 1
IDL 5V 2
IRQ 3
EJECT 4
COMMON 5
POWER 6

OPERATION PCB V1047A5020(P02)

VOLTAGE MEASURED AT RECEIVED STATION ON CH I


IC2
M50450-011P
VSS
AUTO RESET
OSC1
OSC2
OSCILLATOR
TIMING GENERATOR
CHARACTOR GENERATOR
DISPLAY DATA MEMORY
ADDRESS COUNTER
DISPLAY DETECTOR
OUTPUT CONTROL
INPUT CONTROL
INPUT DATA CONTROL
ADDRESS DECORDER
H-COUNTER
CHIP SELECT
CLOCK
BLINKING CLOCK
TEST
H.SYNC
V.SYNC
VDD
C5 27P
VR1 5k
R5 560
CHARACTOR POSITION
C3 0.01/25(N)
C6 100/6.3(M)
D57 PR5505S
PAUSE STILL
FF
IC1
MB88501-395M
R3 1.8K
SW15 CLOCK
SW7 CHANNEL DOWN
SW3 TV/VIDEO
EV-M,EZ MODEL
EZ MODEL
12 HOUR
181 10K
X1
X1 4.194304MHz
C2 4.7P(K)
C1 4.7P(K)
C7 100P
RESET
IRQ
TC
SC/TC
START
Vcc
TR1–TR13 2SC2603 (E,F)
TR14 DTC114ES
D1–D13 BG5525S
D14 DG5525S
D15 to 42 1S2473
※ PM1
EG,EV-M,ES MODEL UBB050028A
EZ MODEL UBH050027A
VU
VH
VL
2SC2603 DTC143ES
ECB
R10 1/6W 470K
R11 1/6W 220K
D70 GMA-01
TR15 2SC2603 (E,F)
SW1
AFC
P104
1 VU
2 VH
3 VL
4 GND
5 33V
6 VT
7 AFT

2)

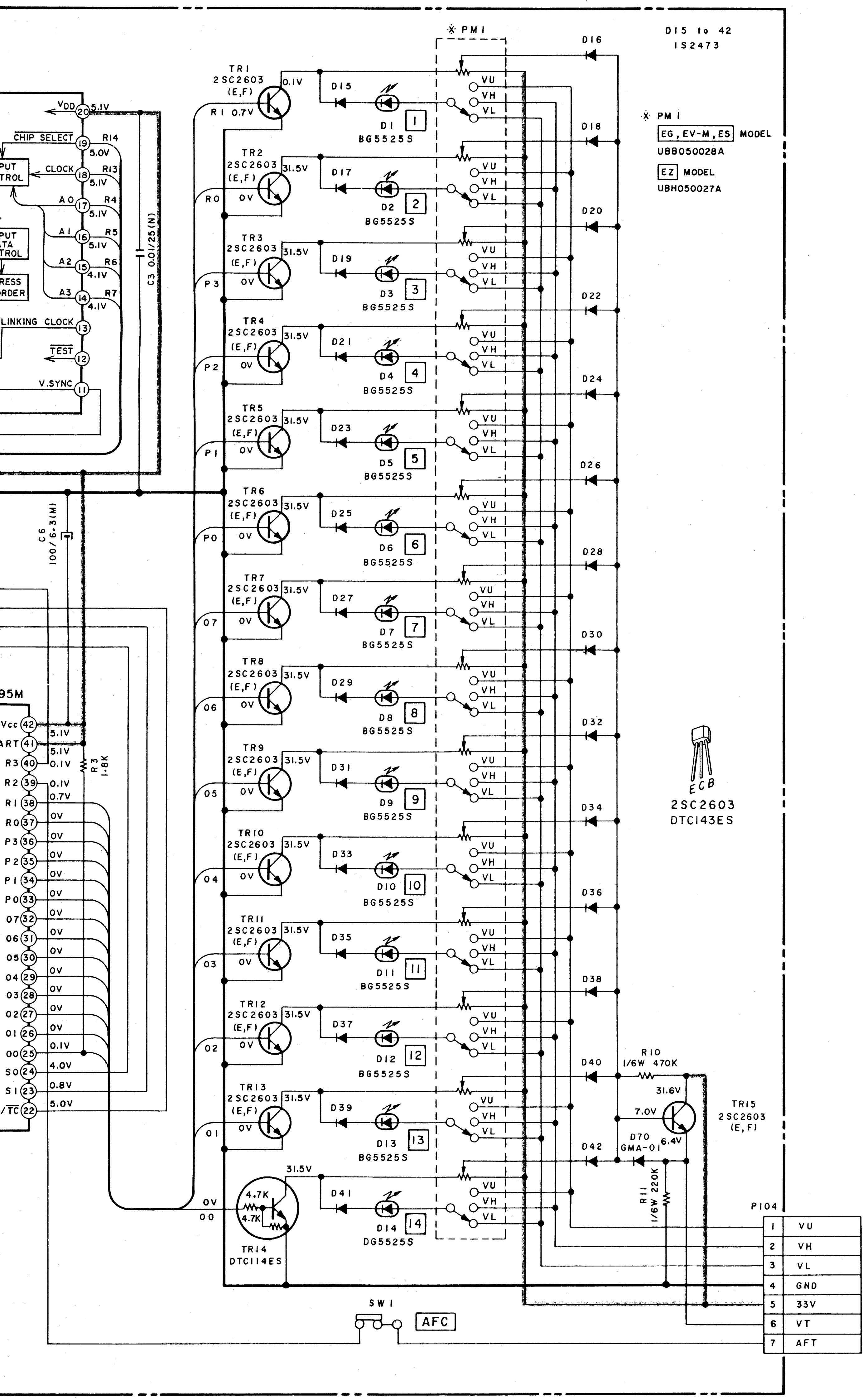
VOLTAGE MEASURED AT RECEIVED
STATION ON CH1

= B(POWER SUPPLY) LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50WV(J)

VS-155 EG/ES/EV
OPERATION
SCHEMATIC D

NO.7-3 8



G
H
I
J
K
1
2
3
4
5
6
7
8
※ PM1
D15 to 42
1S2473
※ PM1
EG, EV-M, ES MODEL
UBB050028A
EZ MODEL
UBH050027A
TR1 2SC2603 (E,F)
R1 0.7V
0.1V
D15
D1 BG5525S
1
TR2 2SC2603 (E,F)
TR3 2SC2603 (E,F)
TR4 2SC2603 (E,F)
TR5 2SC2603 (E,F)
TR6 2SC2603 (E,F)
TR7 2SC2603 (E,F)
TR8 2SC2603 (E,F)
TR9 2SC2603 (E,F)
TR10 2SC2603 (E,F)
TR11 2SC2603 (E,F)
TR12 2SC2603 (E,F)
TR13 2SC2603 (E,F)
31.5V
0V
R0
P3
P2
P1
P0
07
06
05
04
03
02
01
00
VU
VH
VL
D16
D17
D18
D19
D20
D21
D22
D23
D24
D25
D26
D27
D28
D29
D30
D31
D32
D33
D34
D35
D36
D37
D38
D39
D40
D41
D42
D2 BG5525S
D3 BG5525S
D4 BG5525S
D5 BG5525S
D6 BG5525S
D7 BG5525S
D8 BG5525S
D9 BG5525S
D10 BG5525S
D11 BG5525S
D12 BG5525S
D13 BG5525S
D14 DG5525S
2
3
4
5
6
7
8
9
10
11
12
13
14
TR14 DTC114ES
4.7K
4.7K
VDD 20 5.1V
CHIP SELECT 19 R14 5.0V
CLOCK 18 R13 5.1V
A0 17 R4 5.1V
A1 16 R5 5.1V
A2 15 R6 4.1V
A3 14 R7 4.1V
LINKING CLOCK 13
TEST 12
V.SYNC 11
PUT TROL
PUT TA TROL
RESS ORDER
C3 0.01/25(N)
C6 100/6.3(M)
95M
Vcc 42 5.1V
ART 41 5.1V
R3 40 0.1V
R2 39 0.1V
R1 38 0.7V
R0 37 0V
P3 36 0V
P2 35 0V
P1 34 0V
P0 33 0V
07 32 0V
06 31 0V
05 30 0V
04 29 0V
03 28 0V
02 27 0V
01 26 0V
00 25 0.1V
S0 24 4.0V
S1 23 0.8V
/TC 22 5.0V
R3 1.8K
ECB
2SC2603
DTC143ES
R10 1/6W 470K
31.6V
7.0V
6.4V
D70 GMA-01
TR15 2SC2603 (E,F)
R11 1/6W 220K
SW1
AFC
P104
1 VU
2 VH
3 VL
4 GND
5 33V
6 VT
7 AFT
To MAIN PCB P607

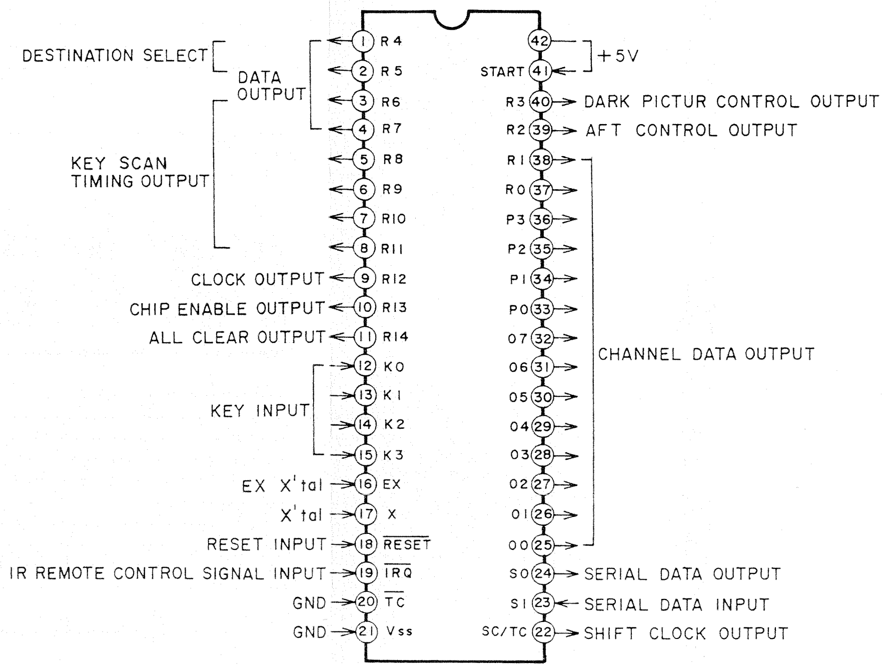
═ =B(POWER SUPPLY) LINE

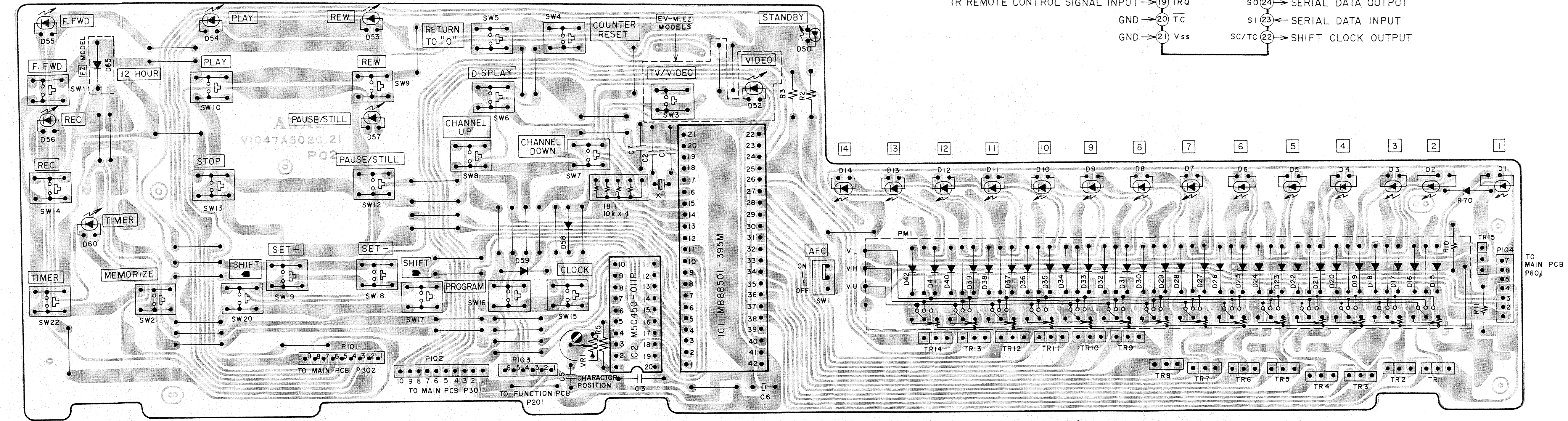
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50WV(J)

VS-155 EG/ES/EV-M/EZ
OPERATION SCHEMATIC DIAGRAM

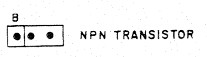
NO.7-3 860224A

MB88501-395M (OPERATION MPU)

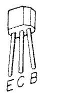

DESTINATION SELECT
DATA OUTPUT
KEY SCAN TIMING OUTPUT
1 R4
2 R5
3 R6
4 R7
5 R8
6 R9
7 R10
8 R11
CLOCK OUTPUT 9 R12
CHIP ENABLE OUTPUT 10 R13
ALL CLEAR OUTPUT 11 R14
KEY INPUT
12 K0
13 K1
14 K2
15 K3
EX X'tal 16 EX
X'tal 17 X
RESET INPUT 18 RESET
IR REMOTE CONTROL SIGNAL INPUT 19 IRQ
GND 20 TC
GND 21 Vss
42
START 41
+5V
R3 40 DARK PICTUR CONTROL OUTPUT
R2 39 AFT CONTROL OUTPUT
R1 38
R0 37
P3 36
P2 35
P1 34
P0 33
O7 32
O6 31
O5 30
O4 29
O3 28
O2 27
O1 26
O0 25
CHANNEL DATA OUTPUT
S0 24 SERIAL DATA OUTPUT
SI 23 SERIAL DATA INPUT
SC/TC 22 SHIFT CLOCK OUTPUT


F.FWD
D55
PLAY
D54
REW
D53
SW5
SW4
RETURN TO "0"
COUNTER RESET
EV-M,EZ MODELS
STANDBY
D50
EZ MODEL
D65
12 HOUR
SW11
SW10
SW9
DISPLAY
SW6
TV/VIDEO
SW3
VIDEO
D52
R3
R2
REC
D56
PAUSE/STILL
D57
V1047A5020.21
CHANNEL UP
SW8
CHANNEL DOWN
SW7
C7
C2
C1
X1
IB1 10k x 4
STOP
SW13
PAUSE/STILL
SW12
SW14
TIMER
D60
D58
SET+
SET-
SHIFT
SHIFT
D59
CLOCK
PROGRAM
SW16
SW15
MEMORIZE
SW19
SW18
SW17
SW20
SW21
SW22
P101
TO MAIN PCB P302
P102
TO MAIN PCB P301
P103
TO FUNCTION PCB P201
VR1
R15
C5
CHARACTOR POSITION
C3
C6
IC2 M50450 011P
IC1 MB88501-395M
AFC
ON
OFF
SW1
VL
VH
VU
14
13
12
11
10
9
8
7
6
5
4
3
2
1
D14
D13
D12
D11
D10
D9
D8
D7
D6
D5
D4
D3
D2
D1
R70
PM1
D42
D41
D40
D39
D38
D37
D36
D35
D34
D33
D32
D31
D30
D29
D28
D27
D26
D25
D24
D23
D22
D21
D20
D19
D18
D17
D16
D15
R10
R11
TR15
P104
TO MAIN PCB P601
TR14
TR13
TR12
TR11
TR10
TR9
TR8
TR7
TR6
TR5
TR4
TR3
TR2
TR1

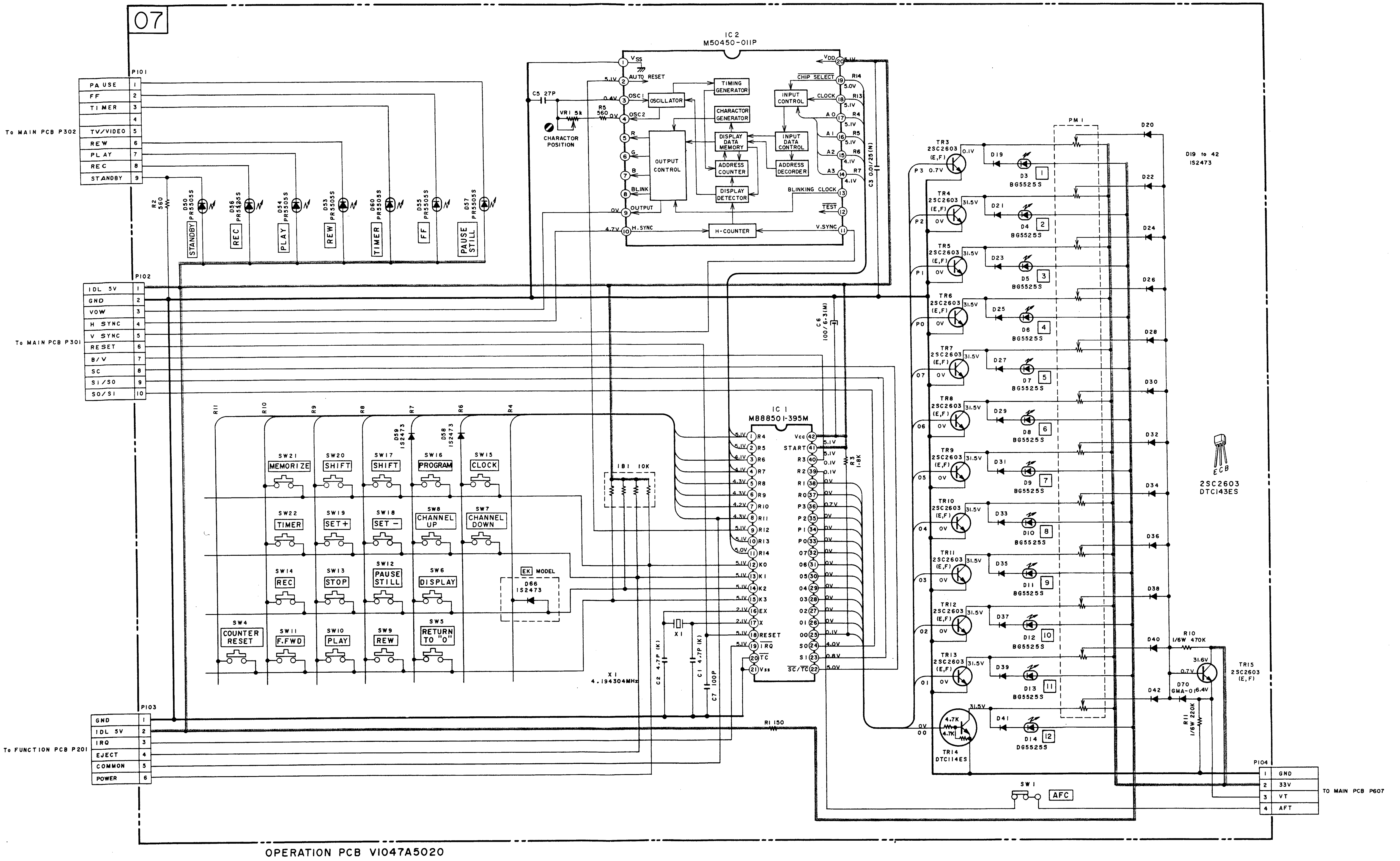
OPERATION PCB V1047A5020-A


B
NPN TRANSISTOR

TR7 to 13,15.............................. 2SC2603
TR14 .... DTC143ES



2SC2603
DTC143ES


07
IC 2
M50450-011P
VSS
AUTO RESET
OSC 1
OSC 2
OSCILLATOR
TIMING GENERATOR
CHARACTOR GENERATOR
DISPLAY DATA MEMORY
ADDRESS COUNTER
DISPLAY DETECTOR
OUTPUT CONTROL
H-COUNTER
INPUT CONTROL
INPUT DATA CONTROL
ADDRESS DECORDER
CHIP SELECT
CLOCK
BLINKING CLOCK
TEST
H.SYNC
V.SYNC
BLINK
OUTPUT
VDD
C5 27P
VR1 5k
R5 560
CHARACTOR POSITION
C3 0.01/25(N)
P101
PAUSE
FF
TIMER
TV/VIDEO
REW
PLAY
REC
STANDBY
To MAIN PCB P302
R2 560
D50 PR5505S
D56 PR5505S
D54 PR5505S
D53 PR5505S
D60 PR5505S
D55 PR5505S
D57 PR5505S
STANDBY
REC
PLAY
REW
TIMER
FF
PAUSE STILL
P102
IDL 5V
GND
VOW
H SYNC
V SYNC
RESET
B/V
SC
SI/SO
SO/SI
To MAIN PCB P301
C6 100/6.3(M)
R11
R10
R9
R8
R7
R6
R4
D59 1S2473
D58 1S2473
SW21 MEMORIZE
SW20 SHIFT
SW17 SHIFT
SW16 PROGRAM
SW15 CLOCK
SW22 TIMER
SW19 SET+
SW18 SET −
SW8 CHANNEL UP
SW7 CHANNEL DOWN
SW14 REC
SW13 STOP
SW12 PAUSE STILL
SW6 DISPLAY
SW4 COUNTER RESET
SW11 F.FWD
SW10 PLAY
SW9 REW
SW5 RETURN TO "0"
IB1 10K
EK MODEL
D66 1S2473
IC 1
MB88501-395M
START
RESET
IRQ
TC
SC/TC
X1
X1 4.194304MHz
C2 4.7P (K)
C1 4.7P (K)
C7 100P
R3 1.8K
P103
GND
IDL 5V
IRQ
EJECT
COMMON
POWER
To FUNCTION PCB P201
R1 150
TR3 2SC2603 (E,F)
TR4 2SC2603 (E,F)
TR5 2SC2603 (E,F)
TR6 2SC2603 (E,F)
TR7 2SC2603 (E,F)
TR8 2SC2603 (E,F)
TR9 2SC2603 (E,F)
TR10 2SC2603 (E,F)
TR11 2SC2603 (E,F)
TR12 2SC2603 (E,F)
TR13 2SC2603 (E,F)
TR14 DTC114ES
D3 BG5525S
D4 BG5525S
D5 BG5525S
D6 BG5525S
D7 BG5525S
D8 BG5525S
D9 BG5525S
D10 BG5525S
D11 BG5525S
D12 BG5525S
D13 BG5525S
D14 DG5525S
PM 1
D19 to 42 1S2473
2SC2603 DTC143ES
ECB
R10 1/6W 470K
R11 1/6W 220K
D70 GMA-01
TR15 2SC2603 (E,F)
SW1
AFC
P104
GND
33V
VT
AFT
To MAIN PCB P607
OPERATION PCB V1047A5020

VOLTAGE MEASURED AT RECEIVED
STATION ON CH I

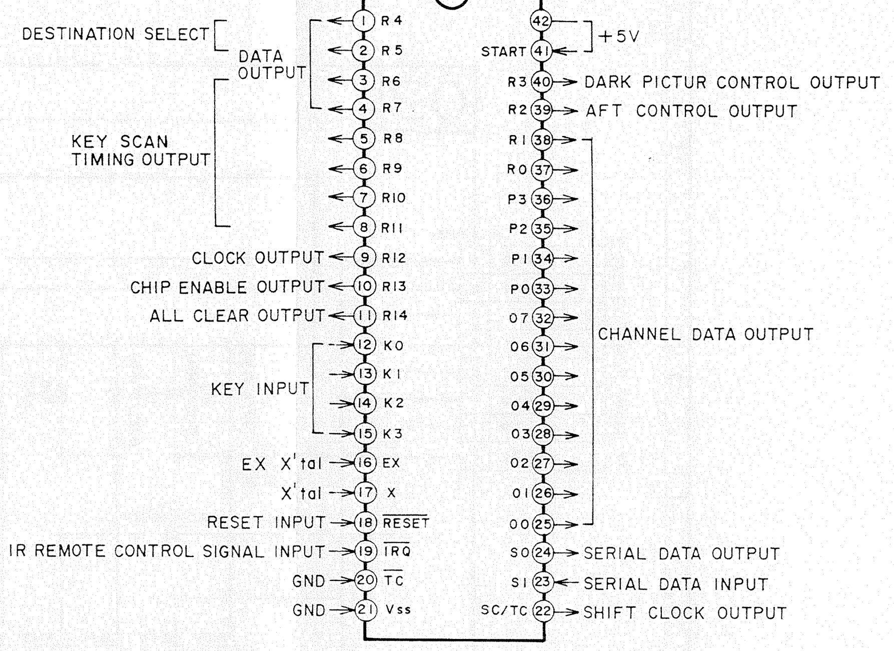
━━━━ =B(POWER SUPPLY) LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN µF 50WV(J)

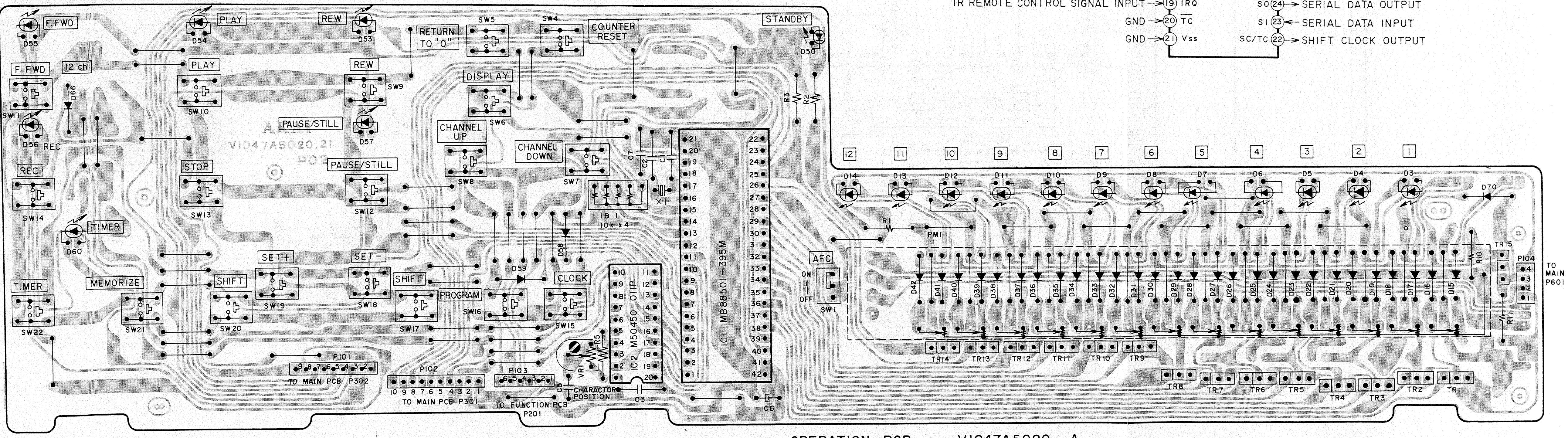
VS-155EK
OPERATION
SCHEMATIC DIAGRAM

NO.7-4 860225A

MB88501-395M (OPERATION MPU)

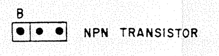


DESTINATION SELECT
DATA OUTPUT
KEY SCAN TIMING OUTPUT
1 R4
2 R5
3 R6
4 R7
5 R8
6 R9
7 R10
8 R11
CLOCK OUTPUT 9 R12
CHIP ENABLE OUTPUT 10 R13
ALL CLEAR OUTPUT 11 R14
KEY INPUT
12 K0
13 K1
14 K2
15 K3
EX X'tal 16 EX
X'tal 17 X
RESET INPUT 18 RESET
IR REMOTE CONTROL SIGNAL INPUT 19 IRQ
GND 20 TC
GND 21 Vss
42
START 41
+5V
R3 40 DARK PICTUR CONTROL OUTPUT
R2 39 AFT CONTROL OUTPUT
R1 38
R0 37
P3 36
P2 35
P1 34
P0 33
O7 32
O6 31
O5 30
O4 29
O3 28
O2 27
O1 26
O0 25
CHANNEL DATA OUTPUT
S0 24 SERIAL DATA OUTPUT
S1 23 SERIAL DATA INPUT
SC/TC 22 SHIFT CLOCK OUTPUT

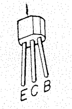


F. FWD
PLAY
REW
RETURN TO "0"
SW5
SW4
COUNTER RESET
STANDBY
D55
D54
D53
D50
F. FWD
12 ch
PLAY
REW
DISPLAY
SW11
D66
SW10
SW9
SW6
D56 REC
PAUSE/STILL
D57
CHANNEL UP
CHANNEL DOWN
V1047A5020,21
P02
REC
STOP
PAUSE/STILL
SW8
SW7
IB1 10k x4
X1
SW14
SW13
SW12
TIMER
D60
SET+
SET−
D58
D59
TIMER
MEMORIZE
SHIFT
SHIFT
CLOCK
PROGRAM
SW22
SW21
SW20
SW19
SW18
SW17
SW16
SW15
IC2 M50450-011P
IC1 MB88501-395M
VR1
R5
C5
C3
C6
C7
C2
R3
R2
R1
PM1
AFC
ON OFF
SW1
P101
TO MAIN PCB P302
P102
TO MAIN PCB P301
P103
TO FUNCTION PCB P201
CHARACTOR POSITION
12 11 10 9 8 7 6 5 4 3 2 1
D14 D13 D12 D11 D10 D9 D8 D7 D6 D5 D4 D3
D70
D42 D41 D40 D39 D38 D37 D36 D35 D34 D33 D32 D31 D30 D29 D28 D27 D26 D25 D24 D23 D22 D21 D20 D19 D18 D17 D16 D15
R10
R11
TR15
P104
TO MAIN PCB P601
TR14 TR13 TR12 TR11 TR10 TR9
TR8 TR7 TR6 TR5 TR4 TR3 TR2 TR1

OPERATION PCB V1047A5020 – A

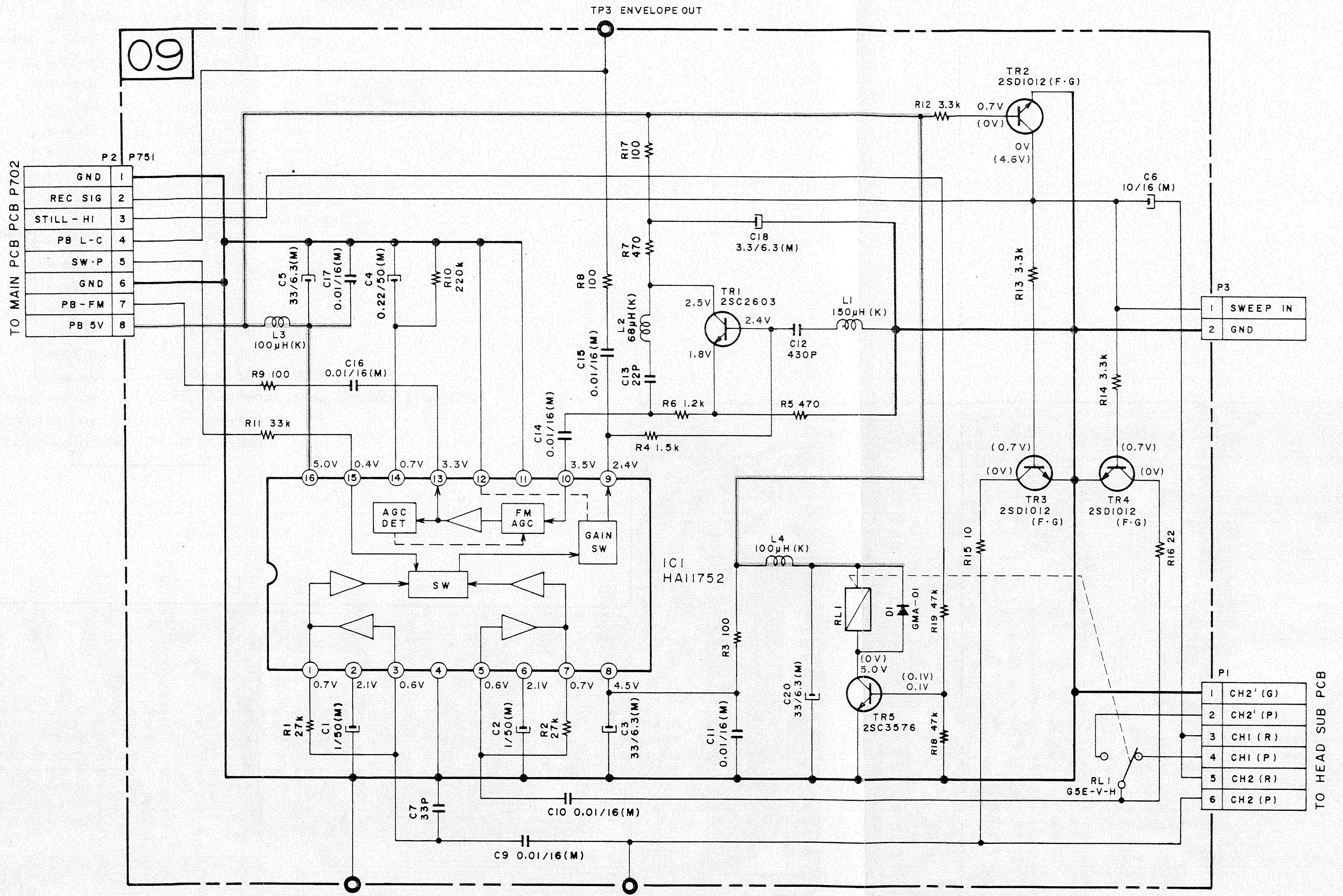


B
NPN TRANSISTOR

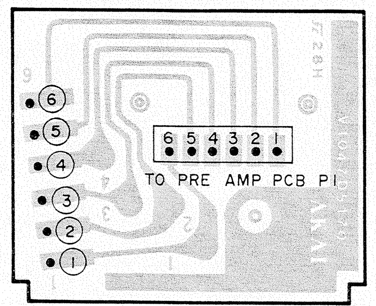


TR1 to 13 .... 2SC2603 (E, F)
TR14 .... DTC114ES

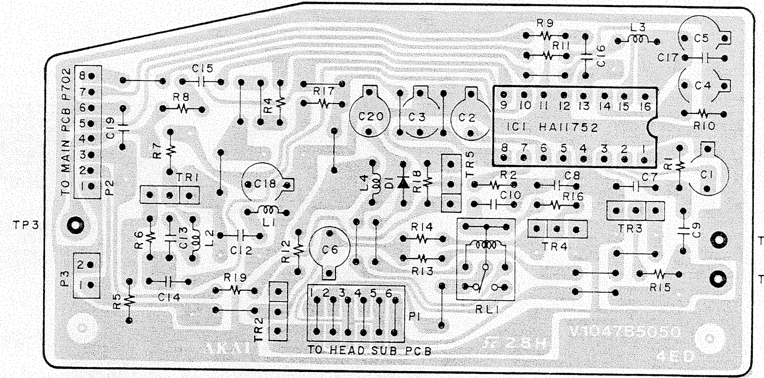
2SC2603
DTC143ES


TP3 ENVELOPE OUT
09
TO MAIN PCB P702
P2 P751
GND 1
REC SIG 2
STILL-HI 3
PB L-C 4
SW-P 5
GND 6
PB-FM 7
PB 5V 8
C5 33/6.3(M)
C17 0.01/16(M)
C4 0.22/50(M)
R10 220k
L3 100μH(K)
R9 100
C16 0.01/16(M)
R11 33k
R17 100
R7 470
R8 100
L2 68μH(K)
C15 0.01/16(M)
C13 22P
C14 0.01/16(M)
C18 3.3/6.3(M)
TR1 2SC2603
2.5V
2.4V
1.8V
C12 430P
L1 150μH(K)
R6 1.2k
R5 470
R4 1.5k
R12 3.3k
TR2 2SD1012(F·G)
0.7V (0V)
0V (4.6V)
R13 3.3k
R14 3.3k
C6 10/16(M)
P3
1 SWEEP IN
2 GND
5.0V 0.4V 0.7V 3.3V 3.5V 2.4V
AGC DET
FM AGC
GAIN SW
SW
IC1 HA11752
L4 100μH(K)
RL1
D1 GMA-01
R19 47k
R3 100
C20 33/6.3(M)
(0V) 5.0V
(0.1V) 0.1V
TR5 2SC3576
(0.7V) (0V)
TR3 2SD1012 (F·G)
TR4 2SD1012 (F·G)
R15 10
R16 22
R18 47k
C11 0.01/16(M)
0.7V 2.1V 0.6V 0.6V 2.1V 0.7V 4.5V
R1 27k
C1 1/50(M)
C2 1/50(M)
R2 27k
C3 33/6.3(M)
C7 33P
C10 0.01/16(M)
C9 0.01/16(M)
RL1 G5E-V-H
P1
1 CH2'(G)
2 CH2'(P)
3 CH1(R)
4 CH1(P)
5 CH2(R)
6 CH2(P)
TO HEAD SUB PCB
TP1 GND
TP2 REC CURR

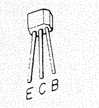
PRE AMP PCB V1047B5050-A


6 5 4 3 2 1
TO PRE AMP PCB P1
AKAI

HEAD SUB PCB
V1047D5170-B


TO MAIN PCB P702
P2
P3
TP3
TP1
TP2
IC1 HA11752
TR1 TR2 TR3 TR4 TR5
RL1
TO HEAD SUB PCB
AKAI
V1047B5050

PRE AMP PCB V1047D5050-A



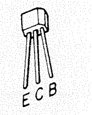
2SC2603
2SC3576
2SD1012

TR1----2SC2603
TR2----2SC3576
TR3,4--2SD1012

B [•••] NPN TRANSISTOR

INDICATED VOLTAGES ARE AT PB MODE
INDICATED IN ( ) ARE AT REC MODE

▬ = B(POWER SUPPLY) LINE

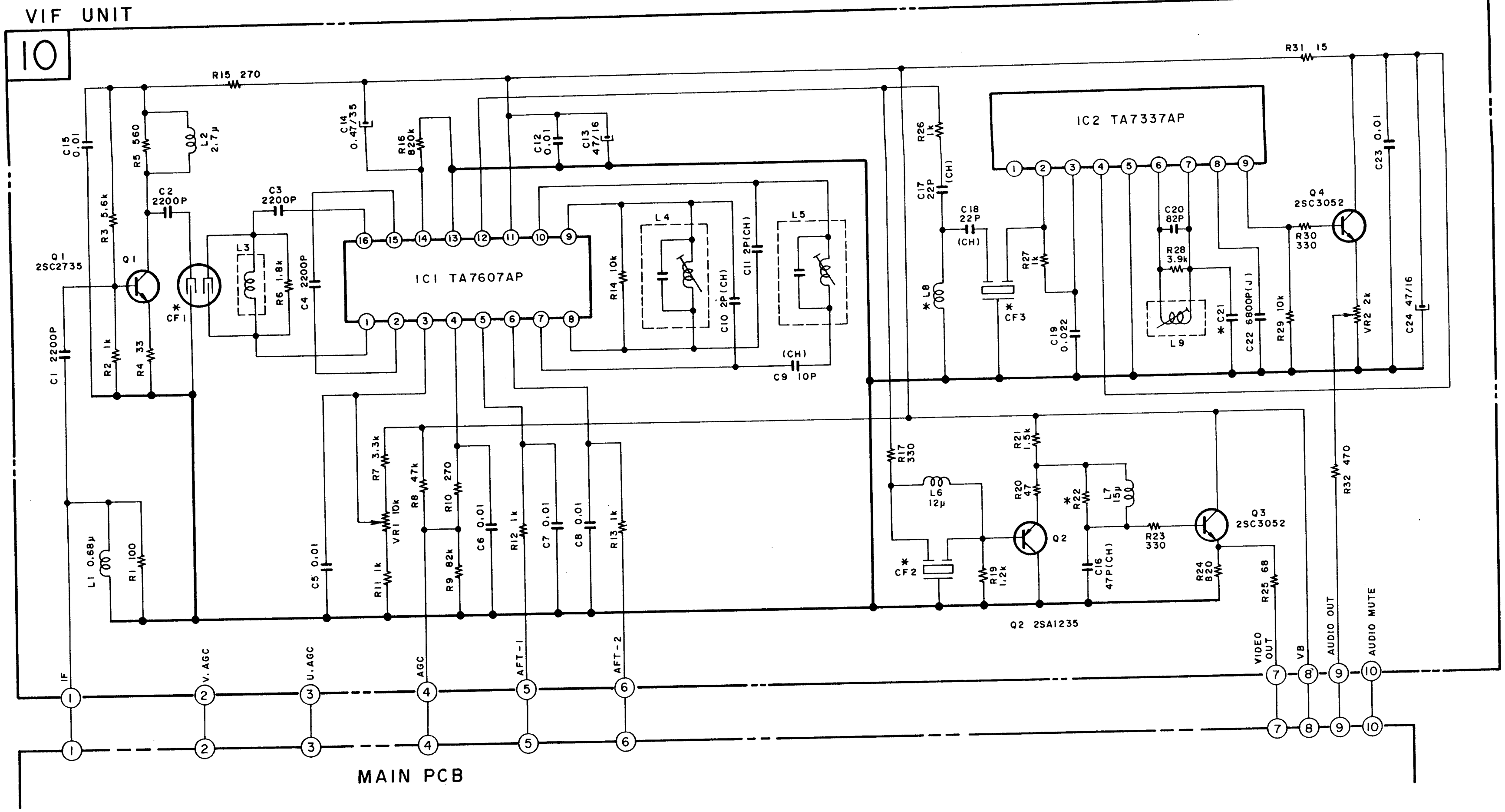


2SC2603
2SC3576
2SD1012

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μF 50WV(J)

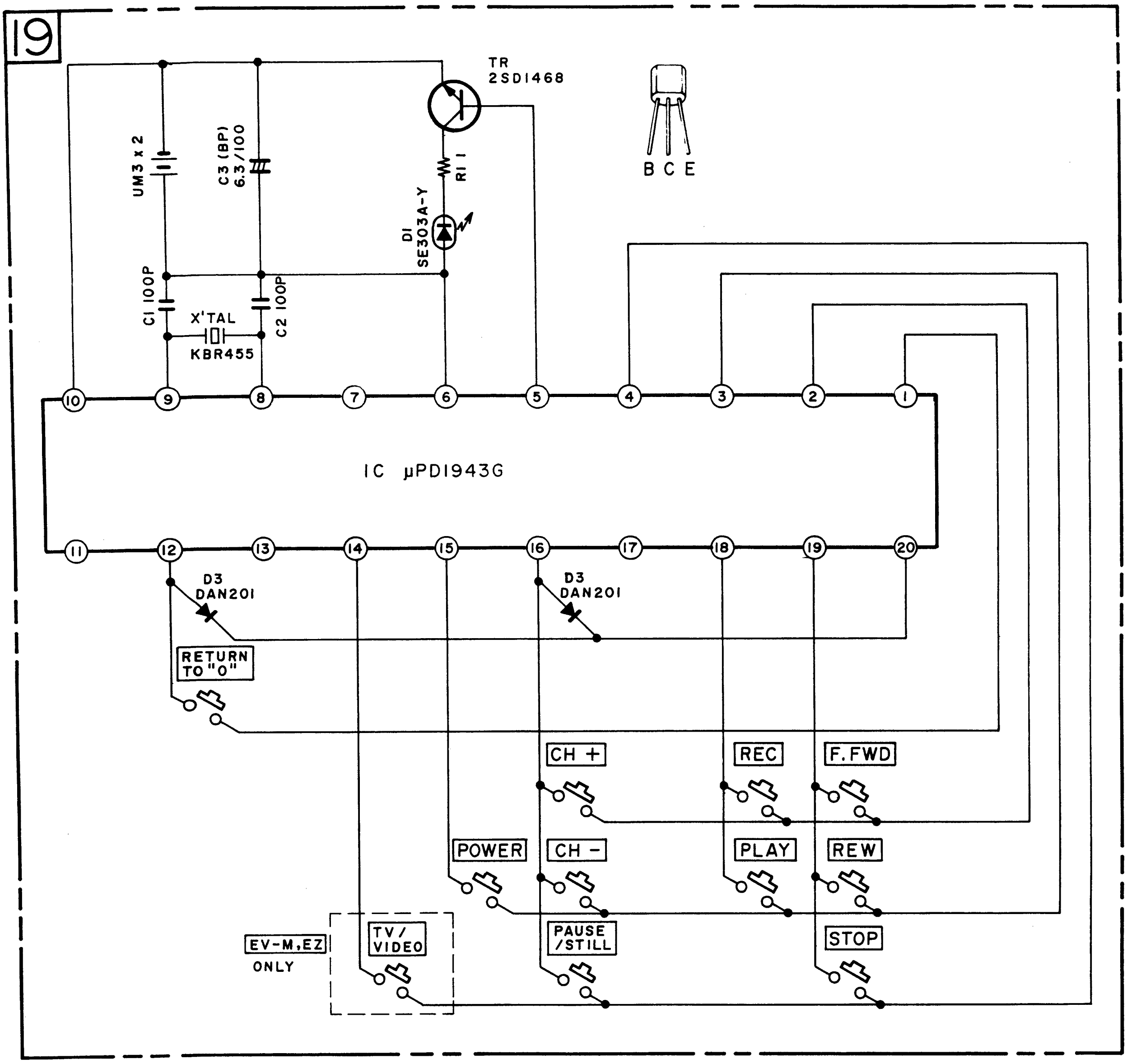
VS-155 EV-M/EZ EG/EK/ES
PRE AMP
SCHEMATIC DIAGRAM

NO.7-5 860226A$_3$(A3)


VIF UNIT
10
R15 270
R31 15
C15 0.01
R3 5.6k
R5 560
L2 2.7μ
C2 2200P
Q1 2SC2735
Q1
CF1 *
L3
R6 1.8k
C3 2200P
C4 2200P
C1 2200P
R2 1k
R4 33
L1 0.68μ
R1 100
C14 0.47/35
R16 820k
C12 0.01
C13 47/16
IC1 TA7607AP
R14 10k
L4
C10 2P(CH)
C11 2P(CH)
L5
C9 10P (CH)
R7 3.3k
VR1 10k
R8 47k
R10 270
R9 82k
R11 1k
C5 0.01
C6 0.01
R12 1k
C7 0.01
C8 0.01
R13 1k
R26 1k
C17 22P (CH)
C18 22P (CH)
* L8
* CF3
R27 1k
C19 0.022
IC2 TA7337AP
C20 82P
R28 3.9k
L9
* C21
C22 6800P(J)
R29 10k
Q4 2SC3052
R30 330
VR2 2k
C23 0.01
C24 47/16
R17 330
L6 12μ
* CF2
R19 1.2k
R21 1.5k
R20 47
Q2
Q2 2SA1235
* R22
L7 15μ
C16 47P(CH)
R23 330
Q3 2SC3052
R24 820
R25 68
R32 470
IF
V.AGC
U.AGC
AGC
AFT-1
AFT-2
VIDEO OUT
VB
AUDIO OUT
AUDIO MUTE
1
2
3
4
5
6
7
8
9
10
MAIN PCB

*	EG/EV-M	EK	ES	EZ
CF 1	SAF38.9MZ	SAF39.5MZ	SAF38.9MW	SAF36.9MZ
CF 2	TPS5.5MB	TPS6.0MB	TPS6.0MB	TPS5.5MB
CF 3	SFE5.5MB	SFE6.0MB	SFE6.0MB	SFE5.5MB
L8	18μH	15μH	15μH	18μH
C21	RH18P	RH 6P	RH 6P	RH 18P
R22	5.6k	3.3k	3.3k	5.6k

VS-155 EV-M/EZ EG/EK/ES
VIF UNIT
SCHEMATIC DIAGRAM
NO. 7-6 860227A


19
TR
2SD1468
B C E
UM3 x 2
C3 (BP)
6.3/100
R11
D1
SE303A-Y
C1 100P
C2 100P
X'TAL
KBR455
10
9
8
7
6
5
4
3
2
1
IC μPD1943G
11
12
13
14
15
16
17
18
19
20
D3
DAN201
D3
DAN201
RETURN
TO "0"
CH +
REC
F.FWD
POWER
CH -
PLAY
REW
EV-M,EZ
ONLY
TV/
VIDEO
PAUSE
/STILL
STOP

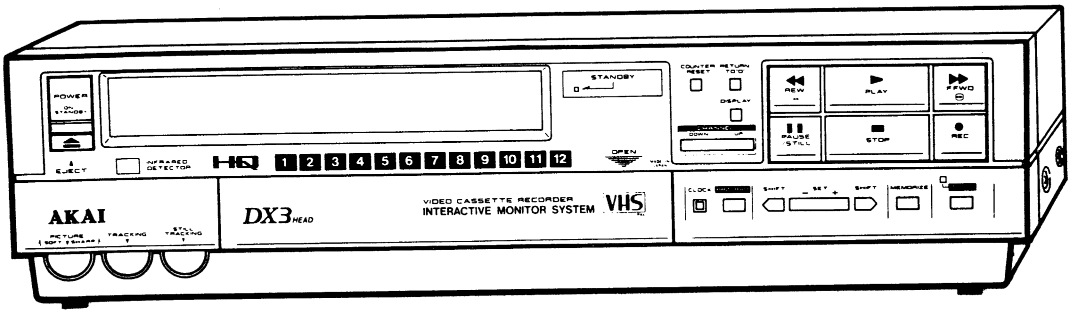
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50WV(J)

RC-V155
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM

NO.7-7 860228A(A2)

AKAI SERVICE MANUAL
(ADDITIONAL)

This additional Schematic Diagram is made for the model VS-155HQ EK which added for VS-155EK. Use this additional Schematic Diagram together with the model VS-155EG/EK/ES/EV-M/EZ SERVICE MANUAL which published previously.



VIDEO CASSETTE RECORDER
MODEL VS-155HQ EK

SPECIFICATIONS

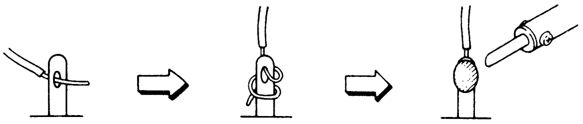
Format	VHS standard
Video recording system	Rotary, slant azimuth two-head helical scan system
Heads	2 video heads
RF input	System I UHF: ch 21 – 69
RF output	System I type modulation UHF: ch 30 – 39 adjustable (preset ch 36)
Recording (line input)	PAL, CCIR (System I, B, G)
Playback (line output)	PAL, CCIR (System I, B, G)
Video	
Line input level	0.5 – 2.0 Vp-p/75 ohms, unbalanced
Line output level	1.0 Vp-p/75 ohms, unbalanced
S/N ratio	more than 45 dB
Horizontal resolution	more than 250 lines
Audio	
Line input level	–8 dBm/50 kohms, unbalanced
Line output level	–6 dB/1 kohms, unbalanced
S/N ratio	more than 40 dB
Frequency response	70 – 10,000 Hz
Recording/Playback time	240 min, with E-240 cassette
Tape speed	
SP mode	23.39 mm/sec.
Quick finder	Approx. 7 times normal speed (noise bars fixed)
FF, REW time	Approx. 5 min. with E-240 cassette
Timer	
Programs	4 programs/2-week and sleep timer
Clock reference	Quartz crystal
Display	TV screen (Tape counter, Timer etc)
Power requirements	200/240V AC, 50 Hz
Power consumption	28W
Operating temperature	5°C – 40°C
Dimensions	440(W) × 108(H) × 380(D) mm
Weight	7.6 kg

* For improvement purposes, specifications and design are subject to change without notice.

★SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ symbol parts are critical for safety. Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locatoins.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 M ohms. but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for C or A, specified insulation resistance should be headphone jacks line-in-out jacks etc. more than 2.2 M ohms (ground terminals, microphone jacks).

★INFORMATION

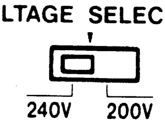
SYMBOLS FOR PRIMARY DESTINATION

Alphabet indicates the destination of the units as listed below.

Symbols	Principal Destinations
A	USA
B	UK
C	Canada
E	Europe (except UK)
J	Japan
S	Australia
V	W. Germany only
U	Universal Area
Y*	Custom version

VOLTAGE CONVERSION

Befor connecting the power cord. SET the VOLTAGE SELECTOR located on the rear panel with a screwdriver so that the correct voltage is indicated.



PARTS LIST

ATTENTION

1. When placing an order for parts, be sure to list Part No., Model No. and the description of each part. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering.
   If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
2-1x	BH-T2023A320A	HEAD BASE BLOCK
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20×03STL CMT
2-4	ZS-536488	BID20×08STL CMT
2-5	ZG-402895	SP CS ANGLE ADJUST

SP (Service Parts) Classification

A small "x" indicates that this part is not shown in the Photo or Illustration.

This number corresponds with the individual parts index number in that figure.

This number corresponds with the Figure Number.

b) PC Board

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
6-IC1	EI-324536	IC HD14049BP
6-IC2	EI-336801	IC MB8841-564M
6-C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
6-C1B	EC-350949	C MMY V 223M 250DC [J]
6-C1C	EC-338397	C MMY V 223M 125AC [C,A]
6-X1	EI-318384	OSC X'TAL NC-18C

Symbols for primary destination

[A]: AAL(U.S.A.)	[S]: SAA(Australia)
[B]: BEAB(England)	[U]: U/T(Universal Area)
[C]: CSA(Canada)	[V]: VDE(W. Germany)
[E]: CEE(Europe)	[Y]: Custom Version
[J]: JPN(Japan)	

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

WARNING

⚠ (*) INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS.

AVERTISSEMENT

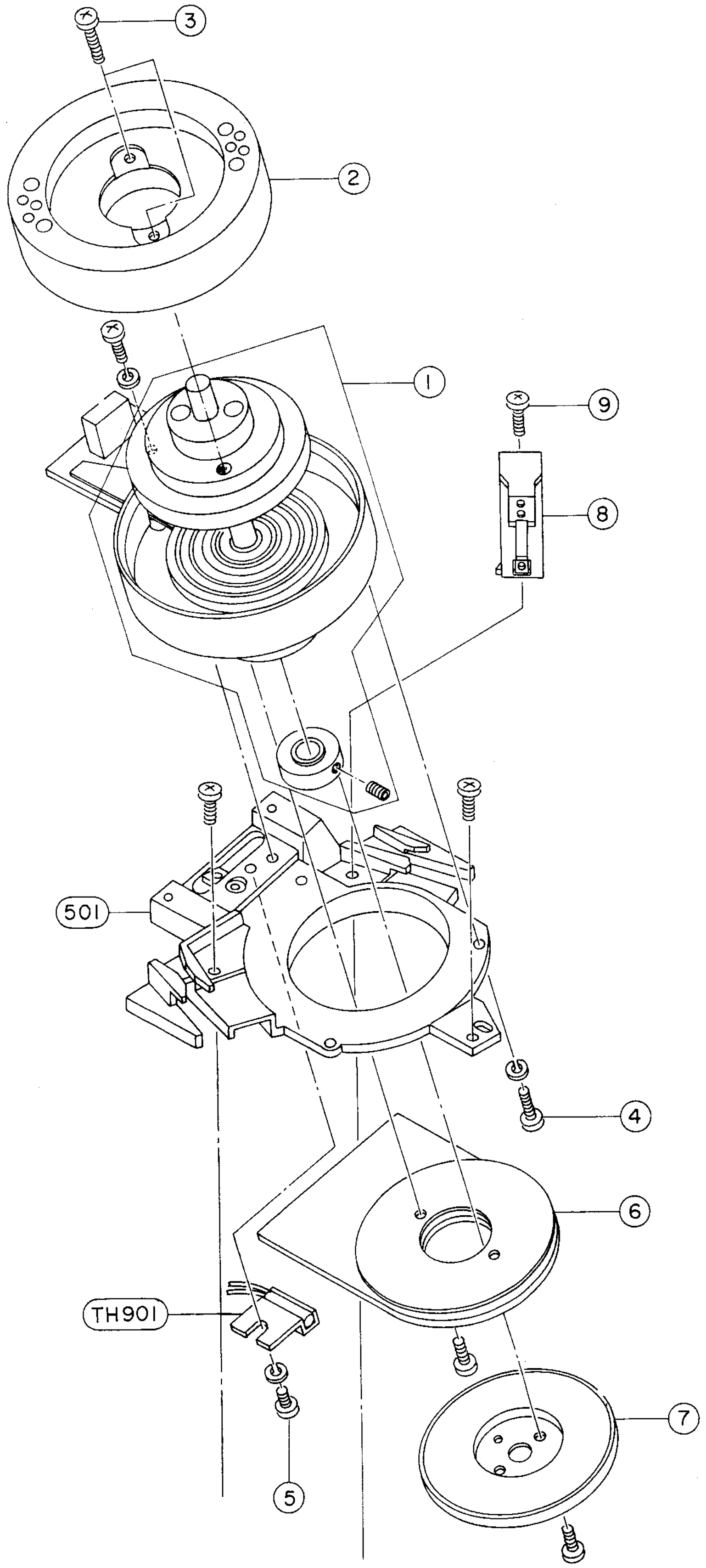
⚠ (*) IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT.

1. RECOMMENDED SPARE PARTS

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

Ref. No.	Part No.	Description
1	BF-B360531-B	FLYWHEEL CAPSTAN PART
2	BM-361544-B	CAPSTAN MOTOR MRX PAL
3	BM-B361467	LOADING MOTOR PART
4	BM-M3223A020B	PC MOTOR BLK SM-230B
5	BR-B360517B	SUPPLY REEL TABLE PART
6	BR-B360517A	TAKE-UP REEL TABLE PART
7	*BT-363945	TRANS POWER V47EK
8	BV-V1047A090A	LOADING LEADER(L) BLK VS-112EG
9	BV-V1047A080A	LOADING LEADER(R) BLK VS-112EG
10	BV-V1047A210A	LOWER DRUM BLK VS-155
11	BV-363232-A	RF CONVERTER BOOSTER EK
12	BV-V1047A220A	UPPER DRUM BLK VS-155EG
13	BV-V1047A900B	VIF BLK VS-112EK
14	ED-356424	D LED BG5525S GREEN
15	ED-357540	D LED LN59
16	ED-355607	D LED PR5505S RED
17	ED-705414	D LED SE303A INFRARED
18	ED-360409	D PHOT PN323B
19	ED-718039	D SILICON DAN201
20	ED-367199	D SILICON DSA17C F12
21	ED-357754	D SILICON DS135D 200/1.0A
22	ED-344280	D SILICON H GMA-01-FY2 F05
23	ED-523427	D SILICON H 1SS16
24	ED-624903	D SILICON H 1S2473
25	ED-367202	D SILICON S5566B F12
26	ED-362998	D ZENER H HZS9.1J F05 B3
27	ED-313846	D ZENER H HZ16 3
28	ED-305706	D ZENER H HZ7 B3
29	ED-346609	D ZENER H HZ9 C1
30	ED-365109	D ZENER H MA1043-H
31	EE-364472	TUNING UNIT UBH16 12CH 203
32	EE-345116	TV TUNER TEEB1-013A
33	*EF-355226	FUSE BET T 1.00A 250V
34	*EF-355398	FUSE BET T 2.00A 250V
35	*EF-344106	FUSE ICP-N10 50V 0.4A
36	EH-360340-A	DL EFD-EN645A31P
37	EH-360341	DL EFD-HR124A13D
38	EH-364045	FILTER LC FF-78P
39	EH-360337	FILTER LC LP LF-47P
40	EI-360561	IC AN3792
41	EI-360563	IC AN3794
42	EI-360334	IC AW2619
43	EI-356288	IC BA225A
44	EI-360648	IC BA5115
45	EI-353421	IC BA6229
46	EI-365162	IC EHM-M96A8U83K
47	EI-352714	IC HA11752
48	EI-356370	IC LA7224
49	EI-366680	IC MB88501-436M R-OPE4
50	EI-366681	IC MB88521-140M R-SYS5 CUSTOM
51	EI-360560	IC MN6178XAL
52	EI-360404	IC M50450-011P
53	EI-360565	IC M5223P
54	EI-356811	IC M5224P
55	EI-360564	IC M54548L
56	EI-360396	IC S-8054HN
57	EI-363347	IC TC9018P
58	EI-358506	IC UPC1513HA
59	EI-337530	IC UPC574J
60	EI-749983	IC UPD1943G
61	EI-347991	OSC CE CSA6.00MS 6MHZ
62	EI-710037	OSC CE CSB455E 455KHZ
63	EI-356371	OSC X'TAL MS-309 4.194304MHZ
64	EI-364562	OSC X'TAL MX-44 4.433619MHZ
65	EO-360647	COIL OSC 1 MX-102
66	*ER-348272	R FUSE ERD2FC S10 1/4W 12R0G
67	*ER-200595	R FUSE ERD2FC S10 1/4W 5R6J
68	*ER-362257	R FUSE ERQ-12H F17 1/2W R47K
69	*ER-364508	R FUSE ERQ-12H F17 1/2W R56K
70	*ER-365157	R FUSE H F10 ERQ-14LE 1/4W R43K
71	ES-360433	SW LEAF MRX
72	ES-361479	SW LEAF MSW-1594C
73	ES-353622-A	SW PUSH EVQ-WU7001 02-2
74	ES-360408	SW SLIDE ESD-14187 1-01-02N
75	ES-354430	SW SLIDE 00220950 02-02-2N
76	ES-349474	SW TACT SKHHAM004A
77	ET-361463	DETECTOR ON2170 Q,R
78	ET-363953	TR DTA114TS
79	ET-360646	TR DTA143ES F05
80	ET-354415	TR DTA144ES
81	ET-353897	TR DTC114ES
82	ET-360399	TR DTC114TS
83	ET-354365	TR DTC114YS
84	ET-354371	TR DTC124ES
85	ET-364060	TR DTC143ES
86	ET-354414	TR DTC144ES
87	ET-354094	TR DTC144WS
88	ET-356236	TR FET 2SK363 GR,BL
89	ET-361490	TR PHOT PN268 R,S
90	ET-360400	TR UN4210
91	ET-361729	TR UN4217
92	ET-308472	TR 2SA1115 E,F,G F05
93	ET-364093	TR 2SA1283 E,F F05
94	ET-371005	TR 2SA1284 D,E F05
95	ET-356224	TR 2SA1286 G,H,J F05
96	ET-322598	TR 2SB632K E,F
97	ET-321644	TR 2SC1213 C
98	ET-308141	TR 2SC2603 G F05
99	ET-355669	TR 2SC3246 G,H,J F05
100	ET-364153	TR 2SC3246 J,K F05
101	ET-361736	TR 2SC3576
102	ET-347961	TR 2SD1012-V G F05
103	ET-362113	TR 2SD1406 Y,GR
104	ET-318604	TR 2SD545NP E,F
105	EV-360410	VR ROTARY K091C0G0C 103
106	EV-360569	VR ROTARY K091C0G0C 104
107	EV-369699	VR ROTARY 09P10X0G B504
108	EX-361672	DEW SENSOR(HEATER) MRX
109	HE-361456	HEAD E HVFMD0005A
110	HR-361454	HEAD COMBO HVMLA1004C
111	MB-360534	BELT IDLER
112	MB-360533	BELT PAL
113	MB-364011	BELT SYNC NB930N15-020T
114	MP-361543-B	PINCH ROLLER PART
115	MR-364010	PULLEY WORM
116	MZ-361314-A	GEAR (1)
117	MZ-360640-A	GEAR (2)
118	MZ-361313	GEAR (3)
119	MZ-360639	GEAR (4)
120	MZ-360638	GEAR (5)
121	MZ-360384	GEAR LOADING (S)
122	MZ-360385-A	GEAR LOADING (T)
123	MZ-366960	GEAR TU BLK (2)
124	MZ-360453	WORM GEAR
125	VT-363354	ROTARY ENCORDER D2ZQ-R9

HEAD DRUM BLOCK



2. HEAD DRUM BLOCK

Ref. No.	Part No.	Description
2-1	BV-V1047A210A	LOWER DRUM BLK VS-155
2-2	ZS-354332	PAN26X08STL CMT SW
2-3	BV-V1047A220A	UPPER DRUM BLK VS-155EG
2-4	ZS-362241	BID30X09STL CMT
2-5	ZS-432843	PAN26X04STL CMT
2-TH901	EX-361672	DEW SENSOR(HEATER) MRX
2-6	BM-M3223A020B	PC MOTOR BLK SM-230B
2-7	BV-B362443	YOKE MAGNET (2) PART
2-8	ZS-356536	PAN26X06BRS NI3
2-9	VT-361452	DRUM EARTH SP ASSY(A)
2-10	ZS-421806	PAN30X08STL CMT

NOTE: The parts reference numbered here except the ones in 500's are normally stocked for replacement purpose. The rest of the parts shown in this manual are not stocked since they are seldom required for routine service.

3. CHASSIS MECHA BLOCK (1)

Ref. No.	Part No.	Description
3-1	ZS-360372-A	SCREW ADJUST
3-2	ZG-363349	SP PUSH ADJUST SCREW
3-3	MS-364796	GUIDE TAPE (3)
3-4	MS-370840	GUIDE TAPE (5)
3-5	MS-362181	GUIDE TAPE TU
3-6	ZS-608095	PAN20X05STL CMT
3-7	ZS-360391	SCREW SPECIAL
3-8	BL-B360353	LEVER REVEW PART
3-9	ZG-360605	SP TORSION REVIEW ARM
3-10	ZW-350839	N30 NYLON
3-11	ZW-354859	PW31X070X100PSL
3-12	BL-B360361-B	ARM PINCH ROLLER PART
3-13	ZG-360602	SP PULL PINCH
3-14	MP-361543-B	PINCH ROLLER PART
3-15	ZS-477876	PAN20X03STL CMT
3-16	ZW-270101	RING E 300SUP CMT
3-17	ZG-313258	SP C-03.5/0.80-10.0 C-102
3-18	ZG-360603	SP TORSION A/C HEAD
3-19	MZ-B362281	HOLDER FE HEAD (2) PART
3-20	MR-364335	ROLLER IMPEDANCE
3-21	ZW-361458	PUSH WASHER 16X032X025PSL
3-22	ZS-460440	PAN20X04STL CMT
3-23	ZG-360604	SP TORSION HOLDER FE HEAD
3-24	BL-B360342-A	LEVER TENSION PART
3-25	BL-B360350	ARM TENSION BAND PART
3-26	ZG-321731	SP T2-04.0/0.40-25.0 T2-115
3-27	ZS-200614	SCREW TRIPLE PAN30X06
3-28	BV-V1047A080A	LOADING LEADER(R) BLK VS-112EG
3-29	BV-V1047A090A	LOADING LEADER(L) BLK VS-112EG
3-303	VT-360148-A	VERTICAL POLE PART
3-31	ZS-321729	6SET20X040SCM PKR WP
3-32	BL-B360486	LEVER FF BRAKE PART
3-33	ZG-364338-A	SP PULL FF BRAKE
3-34	ML-B364686	LEVER SUB BRAKE(R-2) PART
3-35	ZG-364339	SP PULL REW BRAKE
3-36	ML-B364685	LEVER BRAKE REVIEW(2) PART
3-37	ZG-364337	SP PULL REVIEW BRAKE
3-D1	ED-357540	D LED LN59
3-H901	HR-361454	HEAD COMBO HVMLA1004C
3-H902	HE-361456	HEAD E HVFMD0005A
3-SW1	ES-360433	SW LEAF MRX

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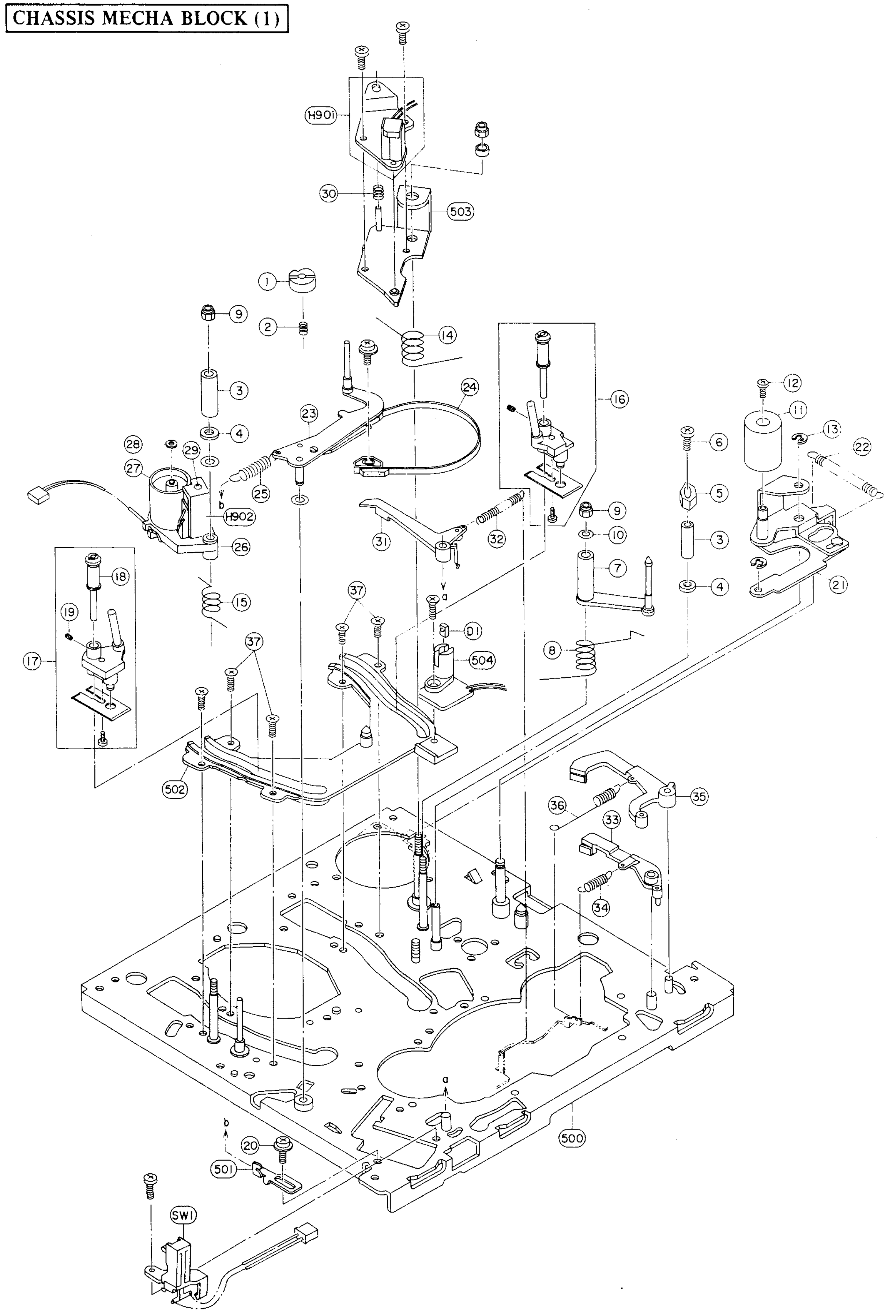
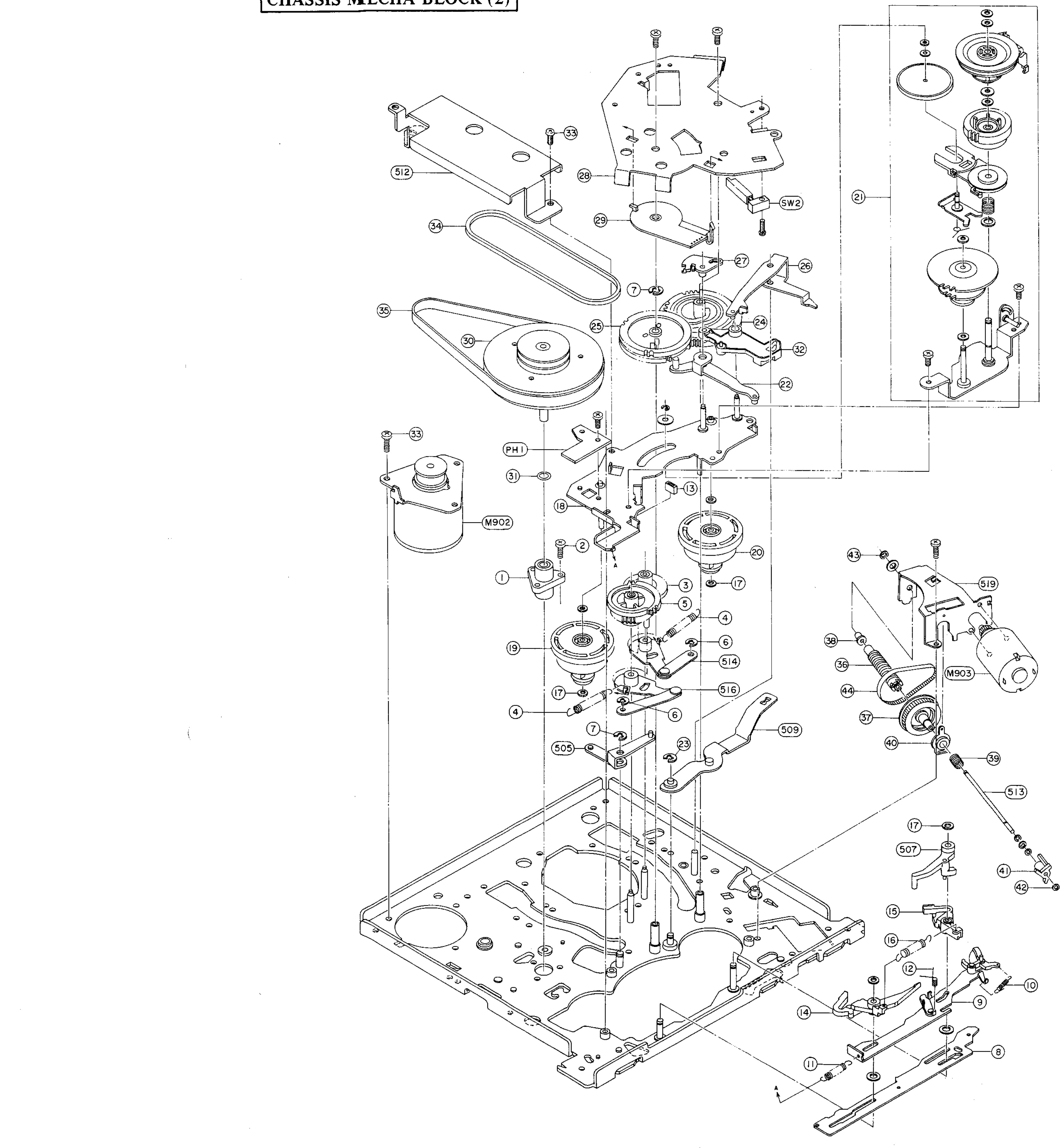
CHASSIS MECHA BLOCK (1)



CHASSIS MECHA BLOCK (2)



4. CHASSIS MECHA BLOCK (2)

Ref. No.	Part No.	Description
4-1	MZ-B360528	HOLDER CAPSTAN PART
4-2	ZS-379350	PAN30X06STL CMT
4-3	MZ-360384	GEAR LOADING (S)
4-4	ZG-360601-A	SP PULL LOADING
4-5	MZ-360385-A	GEAR LOADING (T)
4-6	ZW-357164	RING E 230SUP CMT
4-7	ZW-270101	RING E 300SUP CMT
4-8	ML-366738	PLATE MAIN SLIDE(2)
4-9	MZ-B366734	PLATE F/R SLIDE (2)PART
4-10	ZG-358276	SP T6-03.2/0.20-12.5 T6-041
4-11	ZG-350891	SP T2-04.0/0.40-22.4 T2-114
4-12	ZG-360438	SP TORSION LIFTER
4-13	MB-366733	STOPPER SLIDE (2)
4-14	ML-B364684	ARM(TU) MAIM BRAKE(2) PART
4-15	ML-B364683	ARM(S) MAIN BRAKE(2) PART
4-16	ZG-366617	SP PULL MAIN BRAKE
4-17	ZW-360541	WASHER POLY SLIDER(3)
4-18	MZ-B360425-B	SUB FRAME PART
4-19	BR-B360517A	TAKE-UP REEL TABLE PART
4-20	BR-B360517B	SUPPLY REEL TABLE PART
4-21	MZ-366960	GEAR TU BLK (2)
4-22	ML-B360460-A	LEVER CAM SLIDE PART
4-23	ZW-410051	RING E250SUP CMT
4-24	MZ-364677	GEAR CAM EJECT(2)
4-25	MZ-364676	GEAR CAM MAIN(2)
4-26	ML-B366735	LEVER CAM TENSION(2) PART
4-27	ML-366736	ARM SET FREE(2)
4-28	MZ-360477-B	PLATE MODE SW
4-29	VT-363354	ROTARY ENCORDER D2ZQ-R9
4-30	BF-B360531-B	FLYWHEEL CAPSTAN PART
4-31	ZW-360539	STOPPER OIL
4-32	ML-B366615-A	LEVER CAM F/R PART
4-33	ZS-379350	PAN30X06STL CMT
4-34	MB-360534	BELT IDLER
4-35	MB-360533	BELT PAL
4-36	MZ-360453	WORM GEAR
4-37	MR-364010	PULLEY WORM
4-38	ZW-360479-A	WASHER THRUST
4-39	ZG-360441	SP TORSION ONE WAY
4-40	MZ-360440-A	HOLDER PULLEY WORM
4-41	MR-360432	PULLEY TRIGGER
4-42	ZW-361458	PUSH WASHER 16X032X025PSL
4-43	ZW-356657	RING E150SUP CMT
4-44	MB-364011	BELT SYNC NB930N15-020T
4-M902	BM-361544-B	CAPSTAN MOTOR MRX PAL
4-M903	BM-B361467	LOADING MOTOR PART
4-SW2	ES-361479	SW LEAF MSW-1594C
4-PH1	ET-361463	DETECTOR ON2170 Q.R

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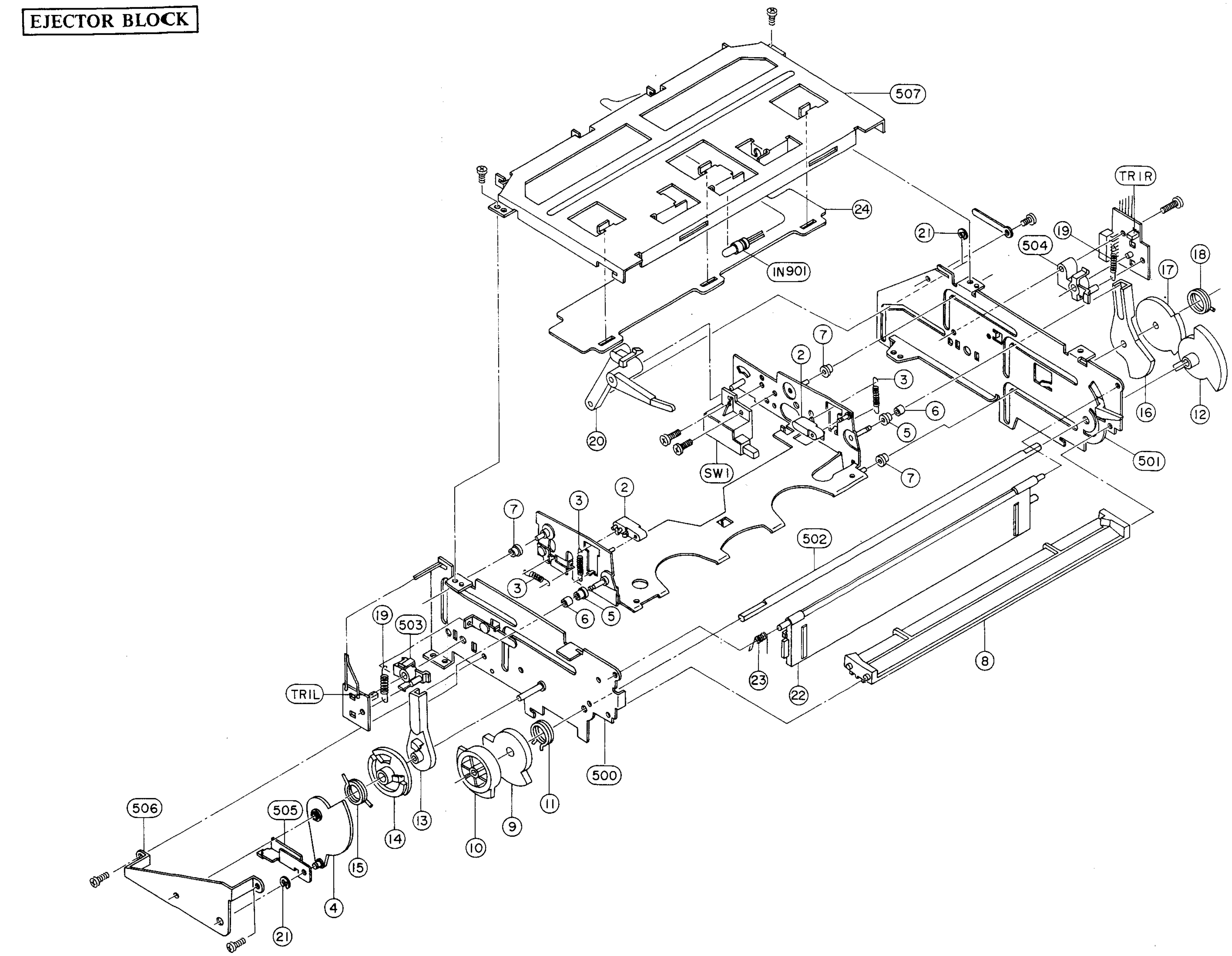
EJECTOR BLOCK



5. EJECTOR BLOCK

Ref. No.	Part No.	Description
5-1	BV-V1047A250A	EJECTOR BLK VS-112EG
5-2	ML-361316	ARM PRESSING
5-3	ZG-357865	SP T5-04.0/0.40-11.2 T5-108
5-4	MZ-B360642	GEAR EJECT PART
5-5	MR-361310	ROLLER (1)
5-6	MR-361311	ROLLER (2)
5-7	MR-361312	ROLLER (3)
5-8	SZ-360607	GUIDE
5-9	MZ-361314-A	GEAR (1)
5-10	MZ-361313	GEAR (3)
5-11	ZG-360615	SP TORSION (EJ)
5-12	MZ-360640-A	GEAR (2)
5-13	ML-360635	ARM LOADING (L)
5-14	MZ-360639	GEAR (4)
5-15	ZG-360614	SP TORSION (L)
5-16	ML-360634	ARM LOADING (R)
5-17	MZ-360638	GEAR (5)
5-18	ZG-360613	SP TORSION (R)
5-19	ZG-358212	SP T5-06.3/0.50-16.0 T5-180
5-20	BL-B361308	ARM LID OPENER PART
5-21	ZW-357164	RING E 230SUP CMT
5-IN901	EL-363355	PL CORD 12.0V 75MA 200/200
5-SW1	ES-353622-A	SW PUSH EVQ-WU7001 02-2
5-TR1L	ET-361490	TR PHOT PN268 R,S
5-TR1R	ET-361490	TR PHOT PN268 R,S
5-22	SE-361317	MASK CASSETTE
5-23	ZG-360616	SP TORSION
5-24	SP-364666	PLATE MIRROR (2)

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6. P.C BOARD BLOCK

Ref. No.	Part No.	Description
6-1	BA-V1047C300M	PC MAIN(PAL) BLK VS-155HQEK
6-2	BA-V1047C330B	PC OPERATION BLK VS-155EK
6-3	BA-V1047A400D	PC PRE AMP BLK VS-155EG

NOTE: PC MAIN BLK consists of MAIN (PAL) P.C BOARD, VIF BLOCK and HQ PC BOARD.

7. MAIN P.C BOARD

Ref. No.	Part No.	Description
7-C2	EC-307793	C EC V F05 NP SM 220M 10DC
7-C236	EC-200948	C EC V F05 NP SM 1R0M 50DC
7-C522	EC-337966	C PP V APS 103J 100DC
7-C610	EC-358805	C TT V EF R47M 35.0DC
7-DL1	EH-360340-A	DL EFD-EN645A31P
7-DL2	EH-360341	DL EFD-HR124A13D
7-D1	ED-344280	D SILICON H GMA-01-FY2 F05
7-D2	ED-624903	D SILICON H 1S2473
7-D4	ED-344280	D SILICON H GMA-01-FY2 F05
7-D5	ED-344280	D SILICON H GMA-01-FY2 F05
7-D201	ED-313846	D ZENER H HZ16 3
7-D202	ED-362998	D ZENER H HZS9.1J F05 B3
7-D203	ED-344280	D SILICON H GMA-01-FY2 F05
7-D204	ED-344280	D SILICON H GMA-01-FY2 F05
7-D205	ED-344280	D SILICON H GMA-01-FY2 F05
7-D210	ED-344280	D SILICON H GMA-01-FY2 F05
7-D211	ED-344280	D SILICON H GMA-01-FY2 F05
7-D212	ED-344280	D SILICON H GMA-01-FY2 F05
7-D402	ED-344280	D SILICON H GMA-01-FY2 F05
7-D403	ED-344280	D SILICON H GMA-01-FY2 F05
7-D404	ED-344280	D SILICON H GMA-01-FY2 F05
7-D405	ED-344280	D SILICON H GMA-01-FY2 F05
7-D406	ED-357754	D SILICON DS135D 200/1.0A
7-D407	ED-344280	D SILICON H GMA-01-FY2 F05
7-D408	ED-344280	D SILICON H GMA-01-FY2 F05
7-D410	ED-344280	D SILICON H GMA-01-FY2 F05
7-D413	ED-344280	D SILICON H GMA-01-FY2 F05
7-D501	ED-346609	D ZENER H HZ9 C1
7-D601	ED-344280	D SILICON H GMA-01-FY2 F05
7-D602	ED-344280	D SILICON H GMA-01-FY2 F05
7-D603	ED-337266	D ZENER H HZ9 A1
7-D605	ED-344280	D SILICON H GMA-01-FY2 F05
7-D606	ED-344280	D SILICON H GMA-01-FY2 F05
7-D701	ED-365109	D ZENER H MA1043-H
7-D702	ED-305706	D ZENER H HZ7 B3
7-D703	ED-344280	D SILICON H GMA-01-FY2 F05
7-D704	ED-344280	D SILICON H GMA-01-FY2 F05
7-D705	ED-344280	D SILICON H GMA-01-FY2 F05
7-FL2	EH-360337	FILTER LC LP LF-47P
7-FL3	EH-364045	FILTER LC FF-78P
7-FL501	EO-360647	COIL OSC 1 MX-102
7-FR1	*ER-348272	R FUSE ERD2FC S10 1/4W 12R0G
7-IC1	EI-365162	IC EHM-M96A8U83K
7-IC2	EI-360334	IC AW2619
7-IC201	EI-360565	IC M5223P
7-IC202	EI-360561	IC AN3792
7-IC203	EI-360560	IC MN6178XAL
7-IC204	EI-360565	IC M5223P
7-IC205	EI-360563	IC AN3794
7-IC206	EI-360564	IC M54548L
7-IC207	EI-356288	IC BA225A
7-IC401	EI-366681	IC MB88521-140M R-SYS5 CUSTOM
7-IC402	*EI-353421	IC BA6229
7-IC403	EI-356811	IC M5224P
7-IC404	EI-360396	IC S-8054HN
7-IC405	EI-363347	IC TC9018P
7-IC501	EI-360648	IC BA5115
7-IC502	EI-358506	IC UPC1513HA
7-IC601	*EI-337530	IC UPC574J
7-IC701	EI-360565	IC M5223P
7-L1	EO-330252	COIL FIX 1 EL0606SKI 101K
7-L2	EO-351865	COIL FIX 1 LAL02 F05 330J
7-L3	EO-356599	COIL FIX 1 LAL02 F05 270K
7-L4	EO-357507	COIL FIX 1 LAL02 F05 121K
7-L5	EO-357507	COIL FIX 1 LAL02 F05 121K
7-L6	EO-330252	COIL FIX 1 EL0606SKI 101K
7-L7	EO-360555	COIL FIX 1 LAL02 F05 180K
7-L8	EO-360555	COIL FIX 1 LAL02 F05 180K
7-L9	EO-351868	COIL FIX 1 LAL02 F05 470K
7-L10	EO-351868	COIL FIX 1 LAL02 F05 470K
7-L11	EO-354600	COIL FIX 1 LAL02 F05 101K
7-L12	EO-354600	COIL FIX 1 LAL02 F05 101K
7-L13	EO-330252	COIL FIX 1 EL0606SKI 101K
7-L14	EO-330252	COIL FIX 1 EL0606SKI 101K
7-L15	EO-353900	COIL FIX 1 LAL02 F05 150K
7-L16	EO-351868	COIL FIX 1 LAL02 F05 470K
7-L17	EO-330252	COIL FIX 1 EL0606SKI 101K
7-L18	EO-345889	COIL FIX 1 EL0606SKI 331J
7-L19	EO-360554	COIL FIX 1 LAL02 F05 221K
7-L21	EO-356599	COIL FIX 1 LAL02 F05 270K
7-L22	EO-330252	COIL FIX 1 EL0606SKI 101K
7-L24	EO-356599	COIL FIX 1 LAL02 F05 270K
7-L25	EO-357508	COIL FIX 1 LAL02 F05 151K
7-L26	EO-351869	COIL FIX 1 LAL02 F05 820K
7-L28	EO-360554	COIL FIX 1 LAL02 F05 221K
7-L501	EO-420344	COIL FIX 1 FL7H 472J
7-L502	EO-383308	COIL FIX 1 FL7H 272J
7-L601	EO-360554	COIL FIX 1 LAL02 F05 221K
7-L602	EO-354600	COIL FIX 1 LAL02 F05 101K
7-R231	*ER-360559	R FUSE RF50S F12 1/2W 1R0J
7-R463	*ER-353878	R OMF H S15 FS 1W 2R2J
7-SF1	*EF-344106	FUSE ICP-N10 50V 0.4A
7-SF201	*EF-344106	FUSE ICP-N10 50V 0.4A
7-TR1	ET-308472	TR 2SA1115 E,F,G F05
7-TR2	ET-308472	TR 2SA1115 E,F,G F05
7-TR3	ET-308472	TR 2SA1115 E,F,G F05
7-TR4	ET-308141	TR 2SC2603 G F05
7-TR5	ET-308472	TR 2SA1115 E,F,G F05
7-TR6	ET-308472	TR 2SA1115 E,F,G F05
7-TR7	ET-308141	TR 2SC2603 G F05
7-TR8	ET-308141	TR 2SC2603 G F05
7-TR9	ET-308472	TR 2SA1115 E,F,G F05
7-TR10	ET-308141	TR 2SC2603 G F05
7-TR11	ET-308141	TR 2SC2603 G F05
7-TR12	ET-308141	TR 2SC2603 G F05
7-TR13	ET-308141	TR 2SC2603 G F05
7-TR14	ET-308472	TR 2SA1115 E,F,G F05
7-TR15	ET-356224	TR 2SA1286 G,H,J F05
7-TR16	ET-356224	TR 2SA1286 G,H,J F05
7-TR17	ET-356224	TR 2SA1286 G,H,J F05
7-TR18	ET-308141	TR 2SC2603 G F05
7-TR19	ET-308141	TR 2SC2603 G F05
7-TR20	ET-308141	TR 2SC2603 G F05
7-TR21	ET-308141	TR 2SC2603 G F05
7-TR22	ET-308472	TR 2SA1115 E,F,G F05
7-TR23	ET-308141	TR 2SC2603 G F05
7-TR24	ET-354414	TR DTC144ES
7-TR25	ET-361729	TR UN4217
7-TR27	ET-354415	TR DTA144ES
7-TR28	ET-354414	TR DTC144ES
7-TR31	ET-308141	TR 2SC2603 G F05
7-TR32	ET-361729	TR UN4217
7-TR38	ET-354414	TR DTC144ES
7-TR201	ET-308141	TR 2SC2603 G F05
7-TR202	ET-356224	TR 2SA1286 G,H,J F05
7-TR203	ET-354365	TR DTC114YS
7-TR204	*ET-322598	TR 2SB632K E,F
7-TR205	ET-308141	TR 2SC2603 G F05
7-TR206	ET-308472	TR 2SA1115 E,F,G F05
7-TR207	ET-308141	TR 2SC2603 G F05
7-TR208	ET-308141	TR 2SC2603 G F05
7-TR210	ET-354414	TR DTC144ES
7-TR211	ET-360399	TR DTC114TS
7-TR212	ET-308472	TR 2SA1115 E,F,G F05
7-TR213	ET-308472	TR 2SA1115 E,F,G F05
7-TR214	ET-353897	TR DTC114ES
7-TR215	ET-353897	TR DTC114ES

Ref. No.	Part No.	Description
7-TR216	ET-308141	TR 2SC2603 G F05
7-TR401	ET-354371	TR DTC124ES
7-TR402	ET-355669	TR 2SC3246 G,H,J F05
7-TR403	ET-308472	TR 2SA1115 E,F,G F05
7-TR404	ET-360400	TR UN4210
7-TR405	ET-360400	TR UN4210
7-TR406	ET-363953	TR DTA114TS
7-TR407	ET-363953	TR DTA114TS
7-TR408	ET-354371	TR DTC124ES
7-TR410	ET-360401	TR UN4116
7-TR411	ET-308472	TR 2SA1115 E,F,G F05
7-TR413	ET-354094	TR DTC144WS
7-TR414	ET-308472	TR 2SA1115 E,F,G F05
7-TR416	ET-308472	TR 2SA1115 E,F,G F05
7-TR417	ET-308472	TR 2SA1115 E,F,G F05
7-TR418	ET-308472	TR 2SA1115 E,F,G F05
7-TR501	ET-308141	TR 2SC2603 G F05
7-TR502	ET-354414	TR DTC144ES
7-TR503	*ET-360646	TR DTA143ES F05
7-TR601	*ET-308141	TR 2SC2603 G F05
7-TR602	*ET-308141	TR 2SC2603 G F05
7-TR603	ET-356224	TR 2SA1286 G,H,J F05
7-TR604	ET-321644	TR 2SC1213 C
7-TR608	*ET-371005	TR 2SA1284 D,E F05
7-TR609	*ET-364093	TR 2SA1283 E,F F05
7-TR611	ET-308141	TR 2SC2603 G F05
7-TR612	ET-356236	TR FET 2SK363 GR,BL
7-TR701	*ET-362113	TR 2SD1406 Y,GR
7-TR702	*ET-362113	TR 2SD1406 Y,GR
7-TR703	*ET-356224	TR 2SA1286 G,H,J F05
7-VR1	EV-356579	R S-FIX H RH0615C13J 3P 102
7-VR2	EV-356575	R S-FIX H RH0615CJ3J 3P 222
7-VR201	EV-366436	R S-FIX H VM6CKPV31S 3P 0.3W 104
7-VR202	EV-356582	R S-FIX H RH0615CS4J 3P 473
7-VR401	EV-363511	R S-FIX EVTK-4CA00BQ4 3P 473
7-VR501	EV-356577	R S-FIX H RH0615C14J 3P 103
7-VR502	EV-356582	R S-FIX H RH0615CS4J 3P 473
7-VR701	EV-366437	R S-FIX H VM6CKPV31S 3P 0.3W 102
7-X1	EI-364562	OSC X'TAL MX-44 4.433619MHZ
7-X401	EI-347991	OSC CE CSA6.00MS 6MHZ
7-1	BV-V1047A900B	VIF BLK VS-112EK
7-2	EE-345116	TV TUNER TEEB1-013A
7-3	EZ-200473	SILICON RUBBER SHEET TC-30
7-4	EJ-363367	JACK PLATE VIDEO B-1
7-5	ZS-353965	PLX BR30X12STL CMT [JACK PLATE FIX]
7-6	BV-363232-A	RF CONVERTER BOOSTER EK
7-7	ZS-354335	PLX BR26X08STL CMT [RF CONVERTER FIX]

8. OPERATION P.C BOARD

Ref. No.	Part No.	Description
8-D3	ED-356424	D LED BG5525S GREEN
8-D4	ED-356424	D LED BG5525S GREEN
8-D5	ED-356424	D LED BG5525S GREEN
8-D6	ED-356424	D LED BG5525S GREEN
8-D7	ED-356424	D LED BG5525S GREEN
8-D8	ED-356424	D LED BG5525S GREEN
8-D9	ED-356424	D LED BG5525S GREEN
8-D10	ED-356424	D LED BG5525S GREEN
8-D11	ED-356424	D LED BG5525S GREEN
8-D12	ED-356424	D LED BG5525S GREEN
8-D13	ED-356424	D LED BG5525S GREEN
8-D14	ED-356424	D LED BG5525S GREEN
8-D19	ED-624903	D SILICON H 1S2473
8-D20	ED-624903	D SILICON H 1S2473
8-D21	ED-624903	D SILICON H 1S2473
8-D22	ED-624903	D SILICON H 1S2473
8-D23	ED-624903	D SILICON H 1S2473
8-D24	ED-624903	D SILICON H 1S2473
8-D25	ED-624903	D SILICON H 1S2473
8-D26	ED-624903	D SILICON H 1S2473
8-D27	ED-624903	D SILICON H 1S2473
8-D28	ED-624903	D SILICON H 1S2473
8-D29	ED-624903	D SILICON H 1S2473
8-D30	ED-624903	D SILICON H 1S2473
8-D31	ED-624903	D SILICON H 1S2473
8-D32	ED-624903	D SILICON H 1S2473
8-D33	ED-624903	D SILICON H 1S2473
8-D34	ED-624903	D SILICON H 1S2473
8-D35	ED-624903	D SILICON H 1S2473
8-D36	ED-624903	D SILICON H 1S2473
8-D37	ED-624903	D SILICON H 1S2473
8-D38	ED-624903	D SILICON H 1S2473
8-D39	ED-624903	D SILICON H 1S2473
8-D40	ED-624903	D SILICON H 1S2473
8-D41	ED-624903	D SILICON H 1S2473
8-D42	ED-624903	D SILICON H 1S2473
8-D50	ED-355607	D LED PR5505S RED
8-D53	ED-355607	D LED PR5505S RED
8-D54	ED-356424	D LED BG5525S GREEN
8-D55	ED-355607	D LED PR5505S RED
8-D56	ED-355607	D LED PR5505S RED
8-D57	ED-355607	D LED PR5505S RED
8-D58	ED-624903	D SILICON H 1S2473
8-D59	ED-624903	D SILICON H 1S2473
8-D60	ED-355607	D LED PR5505S RED
8-D66	ED-624903	D SILICON H 1S2473
8-D70	ED-624903	D SILICON H 1S2473
8-IB1	EH-347743	COMP R RKC1／8B4 103J
8-IC1	EI-366680	IC MB88501-436M R-OPE4
8-IC2	EI-360404	IC M50450-011P
8-PM1	EE-364472	TUNING UNIT UBH16 12CH 203
8-SW1	ES-360408	SW SLIDE ESD-14187 1-01-02N
8-SW4	ES-349474	SW TACT SKHHAM004A
8-SW5	ES-349474	SW TACT SKHHAM004A
8-SW6	ES-349474	SW TACT SKHHAM004A
8-SW7	ES-349474	SW TACT SKHHAM004A
8-SW8	ES-349474	SW TACT SKHHAM004A
8-SW9	ES-349474	SW TACT SKHHAM004A
8-SW10	ES-349474	SW TACT SKHHAM004A
8-SW11	ES-349474	SW TACT SKHHAM004A
8-SW12	ES-349474	SW TACT SKHHAM004A
8-SW13	ES-349474	SW TACT SKHHAM004A
8-SW14	ES-349474	SW TACT SKHHAM004A
8-SW15	ES-349474	SW TACT SKHHAM004A
8-SW16	ES-349474	SW TACT SKHHAM004A
8-SW17	ES-349474	SW TACT SKHHAM004A
8-SW18	ES-349474	SW TACT SKHHAM004A
8-SW19	ES-349474	SW TACT SKHHAM004A
8-SW20	ES-349474	SW TACT SKHHAM004A
8-SW21	ES-349474	SW TACT SKHHAM004A
8-SW22	ES-349474	SW TACT SKHHAM004A
8-TR1	ET-308141	TR 2SC2603 G F05
8-TR2	ET-308141	TR 2SC2603 G F05
8-TR3	ET-308141	TR 2SC2603 G F05
8-TR4	ET-308141	TR 2SC2603 G F05
8-TR5	ET-308141	TR 2SC2603 G F05
8-TR6	ET-308141	TR 2SC2603 G F05
8-TR7	ET-308141	TR 2SC2603 G F05
8-TR8	ET-308141	TR 2SC2603 G F05
8-TR9	ET-308141	TR 2SC2603 G F05
8-TR10	ET-308141	TR 2SC2603 G F05
8-TR11	ET-308141	TR 2SC2603 G F05
8-TR12	ET-308141	TR 2SC2603 G F05
8-TR13	ET-308141	TR 2SC2603 G F05
8-TR14	ET-364060	TR DTC143ES
8-TR15	ET-308141	TR 2SC2603 G F05
8-VR1	EV-356322	R S-FIX H KVSF637A 3P 502
8-X1	EI-356371	OSC X'TAL MS-309 4.194304MHZ

9. FUNCTION P.C BOARD

Ref. No.	Part No.	Description
9-D1	ED-360409	D PHOT PN323B
9-D2	ED-344280	D SILICON H GMA-01-FY2 F05
9-FL1	EO-356372	COIL TUN 1 038-332 38KHZ
9-IC1	EI-356370	IC LA7224
9-SW1	ES-349474	SW TACT SKHHAM004A
9-SW2	ES-349474	SW TACT SKHHAM004A
9-VR1	EV-360410	VR ROTARY K091C0G0C 103
9-VR2	EV-360569	VR ROTARY K091C0G0C 104
9-VR3	EV-369699	VR ROTARY 09P10X0G B504

10. PRE-AMP P.C BOARD

Ref. No.	Part No.	Description
10-D1	ED-344280	D SILICON H GMA-01-FY2 F05
10-IC1	EI-352714	IC HA11752
10-L1	EO-357508	COIL FIX 1 LAL02 F05 151K
10-L2	EO-353902	COIL FIX 1 LAL02 F05 680K
10-L3	EO-330252	COIL FIX 1 EL0606SKI 101K
10-L4	EO-330252	COIL FIX 1 EL0606SKI 101K
10-RL1	EQ-364207	RELAY SIGNAL G5E-V-H 1TR 5V
10-TR1	ET-308141	TR 2SC2603 G F05
10-TR2	ET-347961	TR 2SD1012-V G F05
10-TR3	ET-347961	TR 2SD1012-V G F05
10-TR4	ET-347961	TR 2SD1012-V G F05
10-TR5	ET-361736	TR 2SC3576

11. H.Q P.C BOARD

Ref. No.	Part No.	Description
11-D1	ED-523427	D SILICON H 1SS16
11-D2	ED-523427	D SILICON H 1SS16
11-L1	EO-354600	COIL FIX 1 LAL02 F05 101K
11-L2	EO-354600	COIL FIX 1 LAL02 F05 101K
11-TR1	ET-308472	TR 2SA1115 E,F,G F05
11-TR2	ET-308472	TR 2SA1115 E,F,G F05
11-TR3	ET-308141	TR 2SC2603 G F05
11-TR4	ET-308472	TR 2SA1115 E,F,G F05
11-TR5	ET-308141	TR 2SC2603 G F05
11-TR6	ET-308472	TR 2SA1115 E,F,G F05
11-TR7	ET-308141	TR 2SC2603 G F05

12. POWER SUPPLY P.C BOARD

Ref. No.	Part No.	Description
12-C2	EC-363490	C EC V CUT SME 222M 16.0DC
12-C3	EC-363491	C EC V CUT SME 222M 25.0DC
12-C4	EC-363491	C EC V CUT SME 222M 25.0DC
12-C5	*EC-361942	C CE V DNS103ZV V 103Z 400AC
12-D1	ED-367202	D SILICON S5566B F12
12-D2	ED-367202	D SILICON S5566B F12
12-D3	*ED-367199	D SILICON DSA17C F12
12-D4	*ED-367199	D SILICON DSA17C F12
12-D5	*ED-367199	D SILICON DSA17C F12
12-D6	*ED-367199	D SILICON DSA17C F12
12-D7	*ED-367202	D SILICON S5566B F12
12-D8	*ED-367202	D SILICON S5566B F12
12-D9	*ED-367202	D SILICON S5566B F12
12-D10	*ED-367202	D SILICON S5566B F12
12-FR1	*ER-364508	R FUSE ERQ-12H F17 1/2W R56K
12-FR2	*ER-362257	R FUSE ERQ-12H F17 1/2W R47K
12-FR3	*ER-365157	R FUSE H F10 ERQ-14LE 1/4W R43K
12-FR5	*ER-200595	R FUSE ERD2FC S10 1/4W 5R6J
12-TR1	ET-364153	TR 2SC3246 J,K F05
12-F1	*EF-355226	FUSE BET T 1.00A 250V
12-F2	*EF-355398	FUSE BET T 2.00A 250V
12-T901	*BT-363945	TRANS POWER V47EK

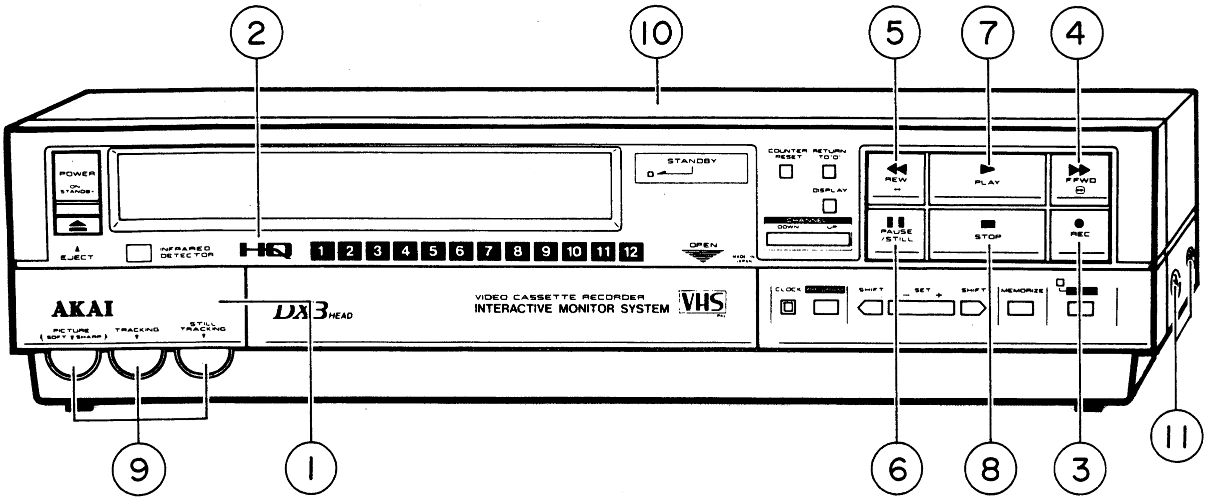
13. EVM P.C BOARD

Ref. No.	Part No.	Description
13-SW901	*ES-354430	SW SLIDE 00220950 02-02-2N

14. ASSEMBLY BLOCK

Ref. No.	Part No.	Description
14-1	ZS-365291	DELL TIGHT BID40X08STL CMT [POWER TRANS FIX]
14-2	ZS-363912	PLX BR40X10STL CMT [POWER TRANS FIX]
14-3	*EW-364044	AC CORD 2 CORES NRBS.LC2X0.75-CB B
14-4	ZS-353963	PLX BR30X10STL CMT [PANEL FRONT FIX]
14-5	SA-353927B	FOOT(2)

FINAL ASSEMBLY BLOCK


2
10
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POWER
EJECT
INFRARED DETECTOR
HQ
STANDBY
COUNTER RESET
RETURN TO '0'
DISPLAY
CHANNEL
REW
PLAY
FFWD
PAUSE /STILL
STOP
REC
AKAI
DX3 HEAD
VIDEO CASSETTE RECORDER
INTERACTIVE MONITOR SYSTEM
VHS
PICTURE
TRACKING
STILL TRACKING
CLOCK
SHIFT
SET
MEMORIZE
OPEN
9
1
6
8
3
11

15. FINAL ASSEMBLY BLOCK

Ref. No.	Part No.	Description
15-1	BD-V1047C130D	PANEL FRONT BLK VS-155HQEK
15-1-B	BD-V1047D130D	PANEL FRONT BLK VS-155HQEK-B
15-2	SP-361782X	PLATE DECORATION VS-155HQEK
15-2-B	SP-361782X	PLATE DECORATION VS-155HQEK
15-3	SK-B361325A	KNOB REC PART
15-3-B	SK-B361325B	KNOB REC-B PART
15-4	SK-B361327A	KNOB FF PART
15-4-B	SK-B361327B	KNOB FF-B PART
15-5	SK-B361328A	KNOB REW PART
15-5-B	SK-B361328B	KNOB REW-B PART
15-6	SK-B361329A	KNOB PAUSE PART
15-6-B	SK-B361329B	KNOB PAUSE-B PART
15-7	SK-B361330A	KNOB PLAY PART
15-7-B	SK-B361330B	KNOB PLAY-B PART
15-8	SK-361331A	KNOB STOP
15-8-B	SK-361331B	KNOB STOP-B
15-9	SK-361334	KNOB PICTURE TRACKING
15-10	SP-361486A	COVER UPPER
15-10-B	SP-361486B	COVER UPPER-B
15-11	ZS-357943	ST BID40X10STL NI3 SPECIAL
15-11-B	ZS-358696	ST BID40X10STL BNI SPECIAL
15-12X	EW-348414	CORD PAL

SYMBOL FOR COLOR VARIATION
NON : SILVER
B : BLOCK

16. REMOTE CONTROL UNIT RC-V120

Ref. No.	Part No.	Description
16-1	AV-370093	REMOCON RC-V120B-E WIRELESS(T)
16-1-B	AV-370094	REMOCON RC-V120B-EB WIRELESS(T)
16-D1	ED-705414	D LED SE303A INFRARED
16-D2	ED-718039	D SILICON DAN201
16-IC1	EI-749983	IC UPD1943G
16-TR1	ET-318604	TR 2SD545NP E,F
16-X1	EI-710037	OSC CE CSB455E 455KHZ
16-2	SC-718689	COVER BATTERY
16-2-B	SC-718690	COVER BATTERY-B

INDEX

Part No.	Ref. No.
AV-370093	16-1
AV-370094	16-1-B
BA-V1047A400D	6-3
BA-V1047C300M	6-1
BA-V1047C330B	6-2
BD-V1047C130D	15-1
BD-V1047D130D	15-1-B
BF-B360531-B	1
BF-B360531-B	4-30
BL-B360342-A	3-24
BL-B360350	3-25
BL-B360353	3-8
BL-B360361-B	3-12
BL-B360486	3-32
BL-B361308	5-20
BM-B361467	3
BM-B361467	4-M903
BM-M3223A020B	4
BM-M3223A020B	2-6
BM-361544-B	2
BM-361544-B	4-M902
BR-B360517A	6
BR-B360517A	4-19
BR-B360517B	5
BR-B360517B	4-20
BT-363945	7
BT-363945	12-T901
BV-B362443	2-7
BV-V1047A080A	9
BV-V1047A080A	3-28
BV-V1047A090A	8
BV-V1047A090A	3-29
BV-V1047A210A	10
BV-V1047A210A	2-1
BV-V1047A220A	12
BV-V1047A220A	2-3
BV-V1047A250A	5-1
BV-V1047A900B	13
BV-V1047A900B	7-1
BV-363232-A	11
BV-363232-A	7-6
EC-200948	7-C236
EC-307793	7-C2
EC-337966	7-C522
EC-358805	7-C610
EC-361942	12-C5
EC-363490	12-C2
EC-363491	12-C3
EC-363491	12-C4
ED-305706	28
ED-305706	7-D702
ED-313846	27
ED-313846	7-D201
ED-337266	7-D603
ED-344280	22
ED-344280	7-D1
ED-344280	7-D4
ED-344280	7-D5
ED-344280	7-D203
ED-344280	7-D204
ED-344280	7-D205
ED-344280	7-D210
ED-344280	7-D211
ED-344280	7-D212
ED-344280	7-D402
ED-344280	7-D403
ED-344280	7-D404
ED-344280	7-D405
ED-344280	7-D407
ED-344280	7-D408
ED-344280	7-D410
ED-344280	7-D413
ED-344280	7-D601
ED-344280	7-D602
ED-344280	7-D605
ED-344280	7-D606
ED-344280	7-D703
ED-344280	7-D704
ED-344280	7-D705
ED-344280	9-D2
ED-344280	10-D1
ED-346609	29
ED-346609	7-D501
ED-355607	16
ED-355607	8-D50
ED-355607	8-D53
ED-355607	8-D55
ED-355607	8-D56
ED-355607	8-D57
ED-355607	8-D60
ED-356424	14
ED-356424	8-D3
ED-356424	8-D4
ED-356424	8-D5
ED-356424	8-D6
ED-356424	8-D7
ED-356424	8-D8
ED-356424	8-D9
ED-356424	8-D10
ED-356424	8-D11
ED-356424	8-D12
ED-356424	8-D13
ED-356424	8-D14
ED-356424	8-D54
ED-357540	15
ED-357540	3-D1
ED-357754	21
ED-357754	7-D406
ED-360409	18
ED-360409	9-D1
ED-362998	26
ED-362998	7-D202
ED-365109	30
ED-365109	7-D701
ED-367199	20
ED-367199	12-D3
ED-367199	12-D4
ED-367199	12-D5
ED-367199	12-D6
ED-367202	25
ED-367202	12-D1
ED-367202	12-D2
ED-367202	12-D7
ED-367202	12-D8
ED-367202	12-D9
ED-367202	12-D10
ED-523427	23
ED-523427	11-D1
ED-523427	11-D2
ED-624903	24
ED-624903	7-D2
ED-624903	8-D19
ED-624903	8-D20
ED-624903	8-D21
ED-624903	8-D22
ED-624903	8-D23
ED-624903	8-D24
ED-624903	8-D25
ED-624903	8-D26
ED-624903	8-D27
ED-624903	8-D28
ED-624903	8-D29
ED-624903	8-D30
ED-624903	8-D31
ED-624903	8-D32
ED-624903	8-D33
ED-624903	8-D34
ED-624903	8-D35
ED-624903	8-D36
ED-624903	8-D37
ED-624903	8-D38
ED-624903	8-D39
ED-624903	8-D40
ED-624903	8-D41
ED-624903	8-D42
ED-624903	8-D58
ED-624903	8-D59
ED-624903	8-D66
ED-624903	8-D70
ED-705414	17
ED-705414	16-D1
ED-718039	19
ED-718039	16-D2
EE-345116	32
EE-345116	7-2
EE-364472	31
EE-364472	8-PM1
EF-344106	35
EF-344106	7-SF1
EF-344106	7-SF201
EF-355226	33
EF-355226	12-F1
EF-355398	34
EF-355398	12-F2
EH-347743	8-IB1
EH-360337	39
EH-360337	7-FL2
EH-360340-A	36
EH-360340-A	7-DL1
EH-360341	37
EH-360341	7-DL2
EH-364045	38
EH-364045	7-FL3
EI-337530	59
EI-337530	7-IC601
EI-347991	61
EI-347991	7-X401
EI-352714	47
EI-352714	10-IC1
EI-353421	45
EI-353421	7-IC402
EI-356288	43
EI-356288	7-IC207
EI-356370	48
EI-356370	9-IC1
EI-356371	63
EI-356371	8-X1
EI-356811	54
EI-356811	7-IC403
EI-358506	58
EI-358506	7-IC502
EI-360334	42
EI-360334	7-IC2
EI-360396	56
EI-360396	7-IC404
EI-360404	52
EI-360404	8-IC2
EI-360560	51
EI-360560	7-IC203
EI-360561	40
EI-360561	7-IC202
EI-360563	41
EI-360563	7-IC205
EI-360564	55
EI-360564	7-IC206
EI-360565	53
EI-360565	7-IC201
EI-360565	7-IC204
EI-360565	7-IC701
EI-360648	44
EI-360648	7-IC501
EI-363347	57
EI-363347	7-IC405
EI-364562	64
EI-364562	7-X1
EI-365162	46
EI-365162	7-IC1
EI-366680	49
EI-366680	8-IC1
EI-366681	50
EI-366681	7-IC401
EI-710037	62
EI-710037	16-X1
EI-749983	60
EI-749983	16-IC1
EJ-363367	7-4
EL-363355	5-IN901
EO-330252	7-L1
EO-330252	7-L6
EO-330252	7-L13
EO-330252	7-L14
EO-330252	7-L17
EO-330252	7-L22
EO-330252	10-L3
EO-330252	10-L4
EO-345889	7-L18
EO-351865	7-L2
EO-351868	7-L9
EO-351868	7-L10
EO-351868	7-L16
EO-351869	7-L26
EO-353900	7-L15
EO-353902	10-L2
EO-354600	7-L11
EO-354600	7-L12
EO-354600	7-L602
EO-354600	11-L1
EO-354600	11-L2
EO-356372	9-FL1
EO-356599	7-L3
EO-356599	7-L21
EO-356599	7-L24
EO-357507	7-L4
EO-357507	7-L5
EO-357508	7-L25
EO-357508	10-L1
EO-360554	7-L19
EO-360554	7-L28
EO-360554	7-L601
EO-360555	7-L7
EO-360555	7-L8
EO-360647	65
EO-360647	7-FL501
EO-383308	7-L502
EO-420344	7-L501
EQ-364207	10-RL1
ER-200595	67
ER-200595	12-FR5
ER-348272	66
ER-348272	7-FR1
ER-353878	7-R463
ER-360559	7-R231
ER-362257	68
ER-362257	12-FR2
ER-364508	69
ER-364508	12-FR1
ER-365157	70
ER-365157	12-FR3
ES-349474	76
ES-349474	8-SW4
ES-349474	8-SW5
ES-349474	8-SW6
ES-349474	8-SW7
ES-349474	8-SW8
ES-349474	8-SW9
ES-349474	8-SW10
ES-349474	8-SW11
ES-349474	8-SW12
ES-349474	8-SW13
ES-349474	8-SW14
ES-349474	8-SW15
ES-349474	8-SW16
ES-349474	8-SW17
ES-349474	8-SW18
ES-349474	8-SW19
ES-349474	8-SW20
ES-349474	8-SW21
ES-349474	8-SW22
ES-349474	9-SW1
ES-349474	9-SW2
ES-353622-A	73
ES-353622-A	5-SW1
ES-354430	75
ES-354430	13-SW901
ES-360408	74
ES-360408	8-SW1
ES-360433	71
ES-360433	3-SW1
ES-361479	72
ES-361479	4-SW2

INDEX

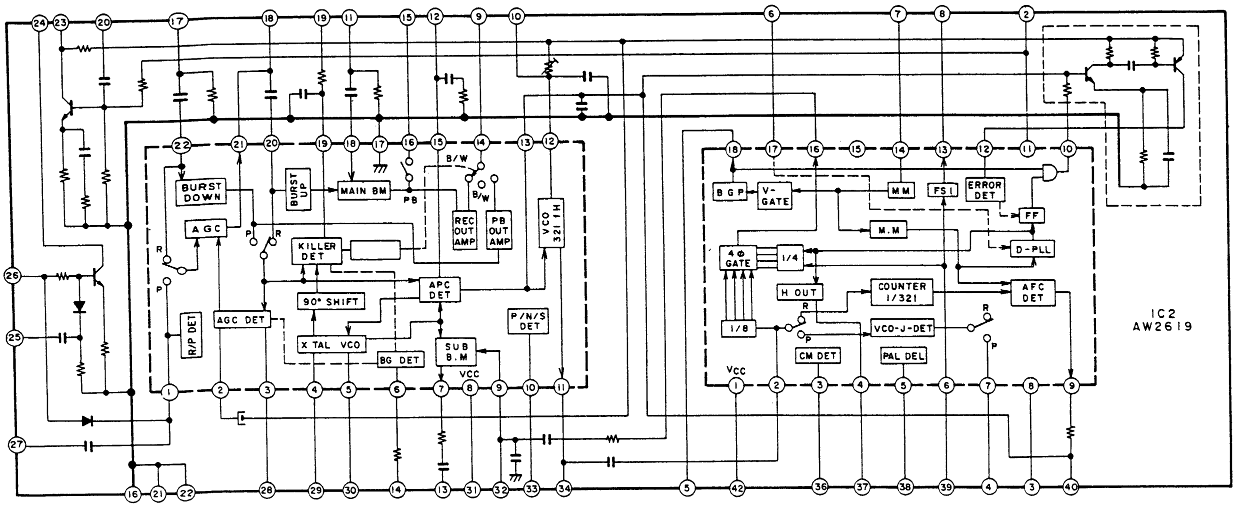
Part No.	Ref. No.
ET-308141	98
ET-308141	7-TR4
ET-308141	7-TR7
ET-308141	7-TR8
ET-308141	7-TR10
ET-308141	7-TR11
ET-308141	7-TR12
ET-308141	7-TR13
ET-308141	7-TR18
ET-308141	7-TR19
ET-308141	7-TR20
ET-308141	7-TR21
ET-308141	7-TR23
ET-308141	7-TR31
ET-308141	7-TR201
ET-308141	7-TR205
ET-308141	7-TR207
ET-308141	7-TR208
ET-308141	7-TR216
ET-308141	7-TR501
ET-308141	7-TR601
ET-308141	7-TR602
ET-308141	7-TR611
ET-308141	8-TR1
ET-308141	8-TR2
ET-308141	8-TR3
ET-308141	8-TR4
ET-308141	8-TR5
ET-308141	8-TR6
ET-308141	8-TR7
ET-308141	8-TR8
ET-308141	8-TR9
ET-308141	8-TR10
ET-308141	8-TR11
ET-308141	8-TR12
ET-308141	8-TR13
ET-308141	8-TR15
ET-308141	10-TR1
ET-308141	11-TR3
ET-308141	11-TR5
ET-308141	11-TR7
ET-308472	92
ET-308472	7-TR1
ET-308472	7-TR2
ET-308472	7-TR3
ET-308472	7-TR5
ET-308472	7-TR6
ET-308472	7-TR9
ET-308472	7-TR14
ET-308472	7-TR22
ET-308472	7-TR206
ET-308472	7-TR212
ET-308472	7-TR213
ET-308472	7-TR403
ET-308472	7-TR411
ET-308472	7-TR414
ET-308472	7-TR416
ET-308472	7-TR417
ET-308472	7-TR418
ET-308472	11-TR1
ET-308472	11-TR2
ET-308472	11-TR4
ET-308472	11-TR6
ET-318604	104
ET-318604	16-TR1
ET-321644	97
ET-321644	7-TR604
ET-322598	96
ET-322598	7-TR204
ET-347961	102
ET-347961	10-TR2
ET-347961	10-TR3
ET-347961	10-TR4
ET-353897	81
ET-353897	7-TR214
ET-353897	7-TR215
ET-354094	87
ET-354094	7-TR413
ET-354365	83
ET-354365	7-TR203
ET-354371	84
ET-354371	7-TR401
ET-354371	7-TR408
ET-354414	86
ET-354414	7-TR24
ET-354414	7-TR28
ET-354414	7-TR38
ET-354414	7-TR210
ET-354414	7-TR502
ET-354415	80
ET-354415	7-TR27
ET-355669	99
ET-355669	7-TR402
ET-356224	95
ET-356224	7-TR15
ET-356224	7-TR16
ET-356224	7-TR17
ET-356224	7-TR202
ET-356224	7-TR603
ET-356224	7-TR703
ET-356236	88
ET-356236	7-TR612
ET-360399	82
ET-360399	7-TR211
ET-360400	90
ET-360400	7-TR404
ET-360400	7-TR405
ET-360401	7-TR410
ET-360646	79
ET-360646	7-TR503
ET-361463	77
ET-361463	4-PH1
ET-361490	89
ET-361490	5-TR1L
ET-361490	5-TR1R
ET-361729	91
ET-361729	7-TR25
ET-361729	7-TR32
ET-361736	101
ET-361736	10-TR5
ET-362113	103
ET-362113	7-TR701
ET-362113	7-TR702
ET-363953	78
ET-363953	7-TR406
ET-363953	7-TR407
ET-364060	85
ET-364060	8-TR14
ET-364093	93
ET-364093	7-TR609
ET-364153	100
ET-364153	12-TR1
ET-371005	94
ET-371005	7-TR608
EV-356322	8-VR1
EV-356575	7-VR2
EV-356577	7-VR501
EV-356579	7-VR1
EV-356582	7-VR202
EV-356582	7-VR502
EV-360410	105
EV-360410	9-VR1
EV-360569	106
EV-360569	9-VR2
EV-363511	7-VR401
EV-366436	7-VR201
EV-366437	7-VR701
EV-369699	107
EV-369699	9-VR3
EW-348414	15-12X
EW-364044	14-3
EX-361672	108
EX-361672	2-TH901
EZ-200473	7-3
HE-361456	109
HE-361456	3-H902
HR-361454	110
HR-361454	3-H901
MB-360533	112
MB-360533	4-35
MB-360534	111
MB-360534	4-34
MB-364011	113
MB-364011	4-44
MB-366733	4-13
ML-B360460-A	4-22
ML-B364683	4-15
ML-B364684	4-14
ML-B364685	3-36
ML-B364686	3-34
ML-B366615-A	4-32
ML-B366735	4-26
ML-360634	5-16
ML-360635	5-13
ML-361316	5-2
ML-366736	4-27
ML-366738	4-8
MP-361543-B	114
MP-361543-B	3-14
MR-360432	4-41
MR-361310	5-5
MR-361311	5-6
MR-361312	5-7
MR-364010	115
MR-364010	4-37
MR-364335	3-20
MS-362181	3-5
MS-364796	3-3
MS-370840	3-4
MZ-B360425-B	4-18
MZ-B360528	4-1
MZ-B360642	5-4
MZ-B362281	3-19
MZ-B366734	4-9
MZ-360384	121
MZ-360384	4-3
MZ-360385-A	122
MZ-360385-A	4-5
MZ-360440-A	4-40
MZ-360453	124
MZ-360453	4-36
MZ-360477-B	4-28
MZ-360638	120
MZ-360638	5-17
MZ-360639	119
MZ-360639	5-14
MZ-360640-A	117
MZ-360640-A	5-12
MZ-361313	118
MZ-361313	5-10
MZ-361314-A	116
MZ-361314-A	5-9
MZ-364676	4-25
MZ-364677	4-24
MZ-366960	123
MZ-366960	4-21
SA-353927B	14-5
SC-718689	16-2
SC-718690	16-2-B
SE-361317	5-22
SK-B361325A	15-3
SK-B361325B	15-3-B
SK-B361327A	15-4
SK-B361327B	15-4-B
SK-B361328A	15-5
SK-B361328B	15-5-B
SK-B361329A	15-6
SK-B361329B	15-6-B
SK-B361330A	15-7
SK-B361330B	15-7-B
SK-361331A	15-8
SK-361331B	15-8-B
SK-361334	15-9
SP-361486A	15-10
SP-361486B	15-10-B
SP-361782X	15-2
SP-361782X	15-2-B
SP-364666	5-24
SZ-360607	5-8
VT-360148-A	3-303
VT-361452	2-9
VT-363354	125
VT-363354	4-29
ZG-313258	3-17
ZG-321731	3-26
ZG-350891	4-11
ZG-357865	5-3
ZG-358212	5-19
ZG-358276	4-10
ZG-360438	4-12
ZG-360441	4-39
ZG-360601-A	4-4
ZG-360602	3-13
ZG-360603	3-18
ZG-360604	3-23
ZG-360605	3-9
ZG-360613	5-18
ZG-360614	5-15
ZG-360615	5-11
ZG-360616	5-23
ZG-363349	3-2
ZG-364337	3-37
ZG-364338-A	3-33
ZG-364339	3-35
ZG-366617	4-16
ZS-200614	3-27
ZS-321729	3-31
ZS-353963	14-4
ZS-353965	7-5
ZS-354332	2-2
ZS-354335	7-7
ZS-356536	2-8
ZS-357943	15-11
ZS-358696	15-11-B
ZS-360372-A	3-1
ZS-360391	3-7
ZS-362241	2-4
ZS-363912	14-2
ZS-365291	14-1
ZS-379350	4-2
ZS-379350	4-33
ZS-421806	2-10
ZS-432843	2-5
ZS-460440	3-22
ZS-477876	3-15
ZS-608095	3-6
ZW-270101	3-16
ZW-270101	4-7
ZW-350839	3-10
ZW-354859	3-11
ZW-356657	4-43
ZW-357164	4-6
ZW-357164	5-21
ZW-360479-A	4-38
ZW-360539	4-31
ZW-360541	4-17
ZW-361458	3-21
ZW-361458	4-42
ZW-410051	4-23

SCHEMATIC DIAGRAM AND PC BOARDS

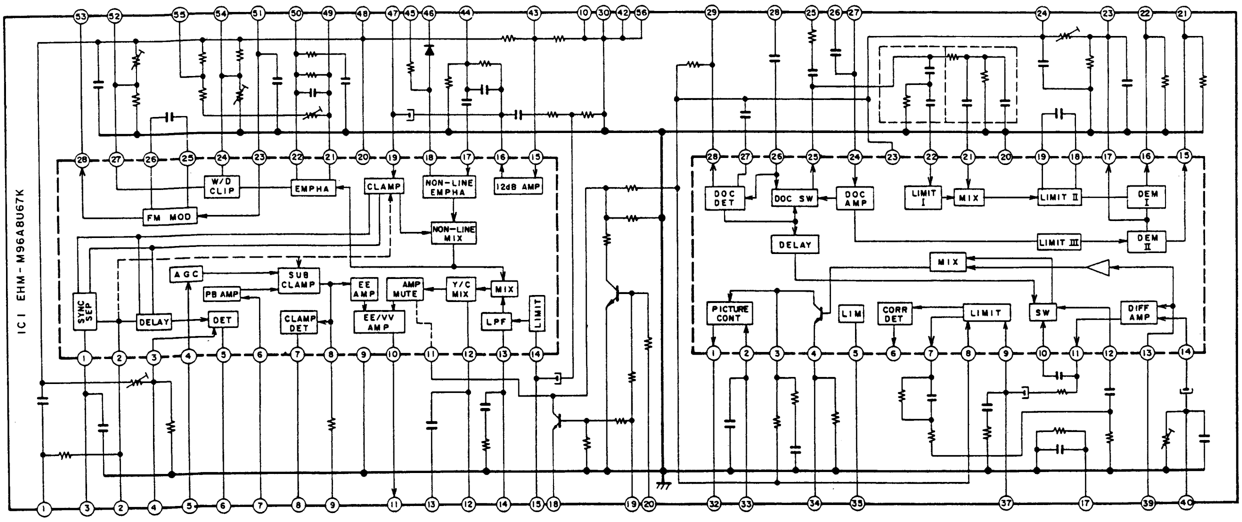
TABLE OF CONTENTS

1. SCHEMATIC DIAGRAM OF ICs 16
2. POWER SUPPLY BLOCK DIAGRAM 18
3. AUDIO BLOCK DIAGRAM 18
4. SYSTEM BLOCK DIAGRAM 19
5. SERVO BLOCK DIAGRAM 20
6. VIDEO BLOCK DIAGRAM 21
7. CONNECTION DIAGRAM 22
8. POWER SUPPLY PC BOARD AND OTHER PC BOARDS 23
9. MAIN SCHEMATIC DIAGRAM 24
10. MAIN PC BOARD 25
11. OPERATION SCHEMATIC DIAGRAM 26
12. OPERATION PC BOARD 27
13. PRE AMP SCHEMATIC DIAGRAM 28
14 PRE AMP PC BOARD 29
15. REMOTE CONTROL UNIT SCHEMATIC DIAGRAM 30

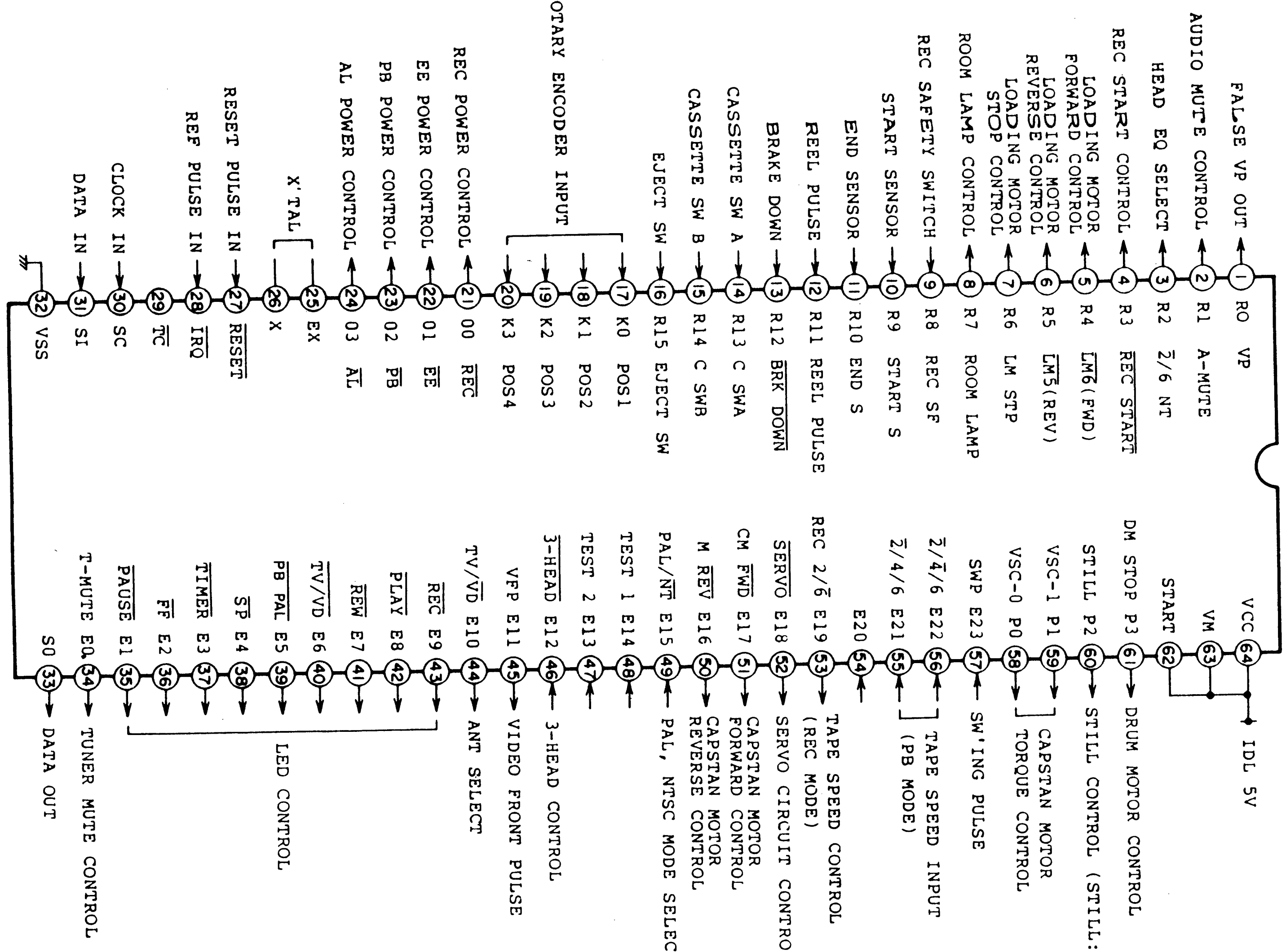
AW2619 [VIDEO (CHROMA) SIGNAL IC]


BURST DOWN
AGC
R/P DET
AGC DET
BURST UP
MAIN BM
KILLER DET
90° SHIFT
X TAL VCO
BG DET
APC DET
SUB B.M
REC OUT AMP
PB OUT AMP
P/N/S DET
VCO 321 fH
B/W
PB
VCC
BGP
V-GATE
MM
FS I
ERROR DET
FF
M.M
D-PLL
4Φ GATE
1/4
H OUT
COUNTER 1/321
AFC DET
1/8
VCO-J-DET
CM DET
PAL DEL
Vcc
R
P
IC2 AW2619

EHM-M96A8U83K [VIDEO (Y) SIGNAL IC]


IC1 EHM-M96A8U67K
W/D CLIP
EMPHA
CLAMP
NON-LINE EMPHA
12dB AMP
FM MOD
NON-LINE MIX
AGC
SUB CLAMP
PB AMP
EE AMP
AMP MUTE
Y/C MIX
MIX
SYNC SEP
DELAY
DET
CLAMP DET
EE/VV AMP
LPF
LIMIT
DOC DET
DOC SW
DOC AMP
LIMIT I
MIX
LIMIT II
DEM I
DELAY
LIMIT III
DEM II
MIX
PICTURE CONT
LIM
CORR DET
LIMIT
SW
DIFF AMP

MB88521-140M (SYSCON MPU)



FALSE VP OUT ① R0 VP
AUDIO MUTE CONTROL ② R1 A-MUTE
HEAD EQ SELECT ③ R2 2/6 NT
REC START CONTROL ④ R3 REC START
LOADING MOTOR FORWARD CONTROL ⑤ R4 LM6(FWD)
LOADING MOTOR REVERSE CONTROL ⑥ R5 LM5(REV)
LOADING MOTOR STOP CONTROL ⑦ R6 LM STP
ROOM LAMP CONTROL ⑧ R7 ROOM LAMP
REC SAFETY SWITCH ⑨ R8 REC SF
START SENSOR ⑩ R9 START S
END SENSOR ⑪ R10 END S
REEL PULSE ⑫ R11 REEL PULSE
BRAKE DOWN ⑬ R12 BRK DOWN
CASSETTE SW A ⑭ R13 C SWA
CASSETTE SW B ⑮ R14 C SWB
EJECT SW ⑯ R15 EJECT SW
ROTARY ENCODER INPUT
⑰ K0 POS1
⑱ K1 POS2
⑲ K2 POS3
⑳ K3 POS4
REC POWER CONTROL (21) 00 REC
EE POWER CONTROL (22) 01 EE
PB POWER CONTROL (23) 02 PB
AL POWER CONTROL (24) 03 AL
X'TAL
(25) EX
(26) X
RESET PULSE IN (27) RESET
REF PULSE IN (28) IRQ
(29) TC
CLOCK IN (30) SC
DATA IN (31) SI
(32) VSS
VCC (64) IDL 5V
VM (63)
START (62)
DM STOP P3 (61) DRUM MOTOR CONTROL
STILL P2 (60) STILL CONTROL (STILL: H)
VSC-1 P1 (59)
VSC-0 P0 (58)
CAPSTAN MOTOR TORQUE CONTROL
SWP E23 (57) SW'ING PULSE
2/4/6 E22 (56)
2/4/6 E21 (55)
TAPE SPEED INPUT (PB MODE)
E20 (54)
REC 2/6 E19 (53) TAPE SPEED CONTROL (REC MODE)
SERVO E18 (52) SERVO CIRCUIT CONTROL
CM FWD E17 (51) CAPSTAN MOTOR FORWARD CONTROL
M REV E16 (50) CAPSTAN MOTOR REVERSE CONTROL
PAL/NT E15 (49) PAL, NTSC MODE SELECT
TEST 1 E14 (48)
TEST 2 E13 (47)
3-HEAD E12 (46) 3-HEAD CONTROL
VFP E11 (45) VIDEO FRONT PULSE
TV/VD E10 (44) ANT SELECT
REC E9 (43)
PLAY E8 (42)
REW E7 (41)
TV/VD E6 (40)
PB PAL E5 (39)
SP E4 (38)
TIMER E3 (37)
FF E2 (36)
PAUSE E1 (35)
LED CONTROL
T-MUTE E0 (34) TUNER MUTE CONTROL
S0 (33) DATA OUT

<table>
<tr><th>Pin No.</th><th>Port Name</th><th>I/O</th><th>Active</th><th>Description</th></tr>
<tr><td>1</td><td>VP</td><td>O</td><td>‾⊔‾</td><td>False V Sync Out on Trick Mode (CUE, REVIEW, STILL)</td></tr>
<tr><td>2</td><td>A-MUTE</td><td>O</td><td>H</td><td>Audio Mute Control</td></tr>
<tr><td>3</td><td>$\overline{2}$/6 NT</td><td>O</td><td>L/H</td><td>EQ SELECT CONTROL (NTSC ONLY) L: SP H: SLP</td></tr>
<tr><td>4</td><td>REC START</td><td>O</td><td>L</td><td>REC START CONTROL</td></tr>
<tr><td>5
6
7</td><td>LM6 (FWD)
LM5 (REV)
LM STP</td><td>O
O
O</td><td>L
L
L</td><td>LOADING MOTOR FORWARD CONTROL
LOADING MOTOR REVERSE CONTROL
LOADING MOTOR STOP CONTROL
<table>
<tr><th>MODE \ TERMINAL</th><th>⑤ LM6 (FWD)</th><th>⑥ LM5 (REV)</th><th>⑦ LM STP</th></tr>
<tr><td>FWD</td><td>L</td><td>H</td><td>L</td></tr>
<tr><td>REV</td><td>H</td><td>L</td><td>L</td></tr>
<tr><td>STOP</td><td>H</td><td>H</td><td>H</td></tr>
</table></td></tr>
<tr><td>8</td><td>ROOM LAMP</td><td>O</td><td>H</td><td>ROOM LAMP CONTROL
PB, REC AND EJECT MODE: ROOM LAMP OFF</td></tr>
<tr><td>9</td><td>REC SF</td><td>I</td><td></td><td>REC SAFTY SW IN L: ACCEPT REC H: NOT ACCEPT REC</td></tr>
<tr><td>10</td><td>START S</td><td>I</td><td></td><td>START SENSOR IN</td></tr>
<tr><td>11</td><td>END S</td><td>I</td><td></td><td>END SENSOR IN</td></tr>
<tr><td>12</td><td>REEL PULSE</td><td>I</td><td>_⊓⊓_</td><td>REEL PULSE IN</td></tr>
<tr><td>13</td><td>BRK DOWN</td><td>I</td><td></td><td>BRAKE DOWN IN L: BRAKE DOWN</td></tr>
<tr><td>14</td><td>C SW A</td><td>I</td><td></td><td>CASSETTE SW A H: CASSETTE IN</td></tr>
<tr><td>15</td><td>C SW B</td><td>I</td><td></td><td>CASSETTE SW B L: CASSETTE IN</td></tr>
<tr><td>16</td><td>EJECT SW</td><td>I</td><td></td><td>EJECT SW H: EJECT</td></tr>
<tr><td>17
18
19
20</td><td>POS 1
POS 2
POS 3
POS 4</td><td>I
I
I
I</td><td></td><td>ROTARY ENCODER DATA IN</td></tr>
<tr><td>21
22
23
24</td><td>REC
EE
PB
AL</td><td>O
O
O
O</td><td>L
L
L
L</td><td>REC POWER CONTROL
EE POWER CONTROL
PB POWER CONTROL
AL POWER CONTROL</td></tr>
<tr><td>25
26</td><td>EX
X</td><td></td><td></td><td>X'TAL</td></tr>
<tr><td>27</td><td>RESET</td><td>I</td><td>L</td><td>RESET PULSE IN</td></tr>
<tr><td>28</td><td>IRQ</td><td>I</td><td>‾|_</td><td>REF PULSE (of VP OUT) IN</td></tr>
<tr><td>29</td><td>TC</td><td></td><td></td><td>NC</td></tr>
<tr><td>30</td><td>SC</td><td>I</td><td>‾⊔⊔⊔‾</td><td>CLOCK IN</td></tr>
<tr><td>31</td><td>SI</td><td>I</td><td>‾⊔⊔⊔‾</td><td>DATA IN (FROM OPERATION MPU)</td></tr>
<tr><td>32</td><td>VSS</td><td></td><td></td><td>GND</td></tr>
<tr><td>33</td><td>SO</td><td>O</td><td>‾⊔⊔⊔‾</td><td>DATA OUT (TO OPERATION MPU)</td></tr>
<tr><td>34</td><td>T-MUTE</td><td>O</td><td>H</td><td>TUNER MUTE CONTROL</td></tr>
<tr><td>35</td><td>PAUSE</td><td>O</td><td>L</td><td>PAUSE LED CONTROL</td></tr>
<tr><td>36</td><td>FF</td><td>O</td><td>L</td><td>FF LED CONTROL</td></tr>
<tr><td>37</td><td>TIMER</td><td>O</td><td>L</td><td>TIMER LED CONTROL</td></tr>
<tr><td>38</td><td>SP</td><td>O</td><td>L</td><td>SP LED CONTROL</td></tr>
<tr><td>39</td><td>PB PAL</td><td>O</td><td>L</td><td>PB PAL LED CONTROL</td></tr>
<tr><td>40</td><td>TV/VD</td><td>O</td><td>L</td><td>TV/VIDEO LED CONTROL</td></tr>
<tr><td>41</td><td>REW</td><td>O</td><td>L</td><td>REW LED CONTROL</td></tr>
<tr><td>42</td><td>PLAY</td><td>O</td><td>L</td><td>PLAY LED CONTROL</td></tr>
<tr><td>43</td><td>REC</td><td>O</td><td>L</td><td>REC LED CONTROL</td></tr>
<tr><td>44</td><td>TV/VD</td><td>O</td><td>L/H</td><td>ANT SELECT CONTROL H: TV L: VIDEO</td></tr>
<tr><td>45</td><td>VFP</td><td>O</td><td>L</td><td>VIDEO FRONT PULSE</td></tr>
<tr><td>46</td><td>3-HEAD</td><td>I</td><td>L</td><td>(3-HEAD MODEL ONLY)</td></tr>
<tr><td>47</td><td>TEST 1</td><td>I</td><td>L</td><td></td></tr>
<tr><td>48</td><td>TEST 2</td><td>I</td><td>L</td><td></td></tr>
</table>

<table>
<tr><th>Pin No.</th><th>Port Name</th><th>I/O</th><th>Active</th><th>Description</th></tr>
<tr><td>49</td><td>PAL/$\overline{NT}$</td><td>I</td><td>H/L</td><td>PAL, NTSC SELECT H: PAL L: NTSC</td></tr>
<tr><td>50
51</td><td>CM REV
CM FWD</td><td>O
O</td><td>L
L</td><td>CAPSTAN MOTOR REVERSE CONTROL
CAPSTAN MOTOR FORWARD CONTROL
<table>
<tr><th>MODE \ TERMINAL</th><th>(51) CM DWD</th><th>(50) CM REV</th></tr>
<tr><td>FWD</td><td>L</td><td>H</td></tr>
<tr><td>REV</td><td>H</td><td>L</td></tr>
<tr><td>STOP</td><td>H</td><td>H</td></tr>
</table></td></tr>
<tr><td>52</td><td>SERVO</td><td>O</td><td>L</td><td>SERVO CIRCUIT CONTROL</td></tr>
<tr><td>53</td><td>REC 2/$\overline{6}$</td><td>O</td><td>H/L</td><td>TAPE SPEED CONTROL (REC MODE) H: SP L: SLP</td></tr>
<tr><td>54</td><td></td><td></td><td></td><td>NC</td></tr>
<tr><td>55
56</td><td>$\overline{2}$/4/6
$\overline{2}$/$\overline{4}$/6</td><td>I
I</td><td></td><td>TAPE SPEED CONTROL (PB MODE)
<table>
<tr><th>TAPE SPEED \ TERMINAL</th><th>(55) $\overline{2}$/4/6</th><th>(56) $\overline{2}$/$\overline{4}$/6</th></tr>
<tr><td>SP</td><td>L</td><td>L</td></tr>
<tr><td>LP</td><td>H</td><td>L</td></tr>
<tr><td>SLP</td><td>H</td><td>H</td></tr>
</table></td></tr>
<tr><td>57</td><td>SWP</td><td>I</td><td>‾⊔⊓_</td><td>SWITCHING PULSE IN</td></tr>
<tr><td>58
59</td><td>VSC-0
VSC-1</td><td>O
O</td><td>H/L
H/L</td><td>CAPSTAN MOTOR TORQUE CONTROL
<table>
<tr><th>MODE \ CONTROL</th><th>VSC-0</th><th>VSC-1</th><th>SERVO</th><th>CM FWD</th><th>CM REV</th></tr>
<tr><td>PLAY</td><td>H</td><td>L</td><td>L</td><td>L</td><td>H</td></tr>
<tr><td>CUE</td><td>H</td><td>H</td><td>L</td><td>L</td><td>H</td></tr>
<tr><td>REVIEW</td><td>H</td><td>H</td><td>L</td><td>H</td><td>L</td></tr>
<tr><td>STILL</td><td>H</td><td>H</td><td>H</td><td>H</td><td>H</td></tr>
<tr><td>FF</td><td>H</td><td>H</td><td>H</td><td>L</td><td>H</td></tr>
<tr><td>REW</td><td>H</td><td>H</td><td>H</td><td>H</td><td>L</td></tr>
</table></td></tr>
<tr><td>60
61</td><td>STILL
DM STP</td><td>O
O</td><td>H
L</td><td>STILL CONTROL STILL: H
DRUM MOTOR CONTROL</td></tr>
<tr><td>62
63
64</td><td>START
VM
VCC</td><td></td><td></td><td>+5V</td></tr>
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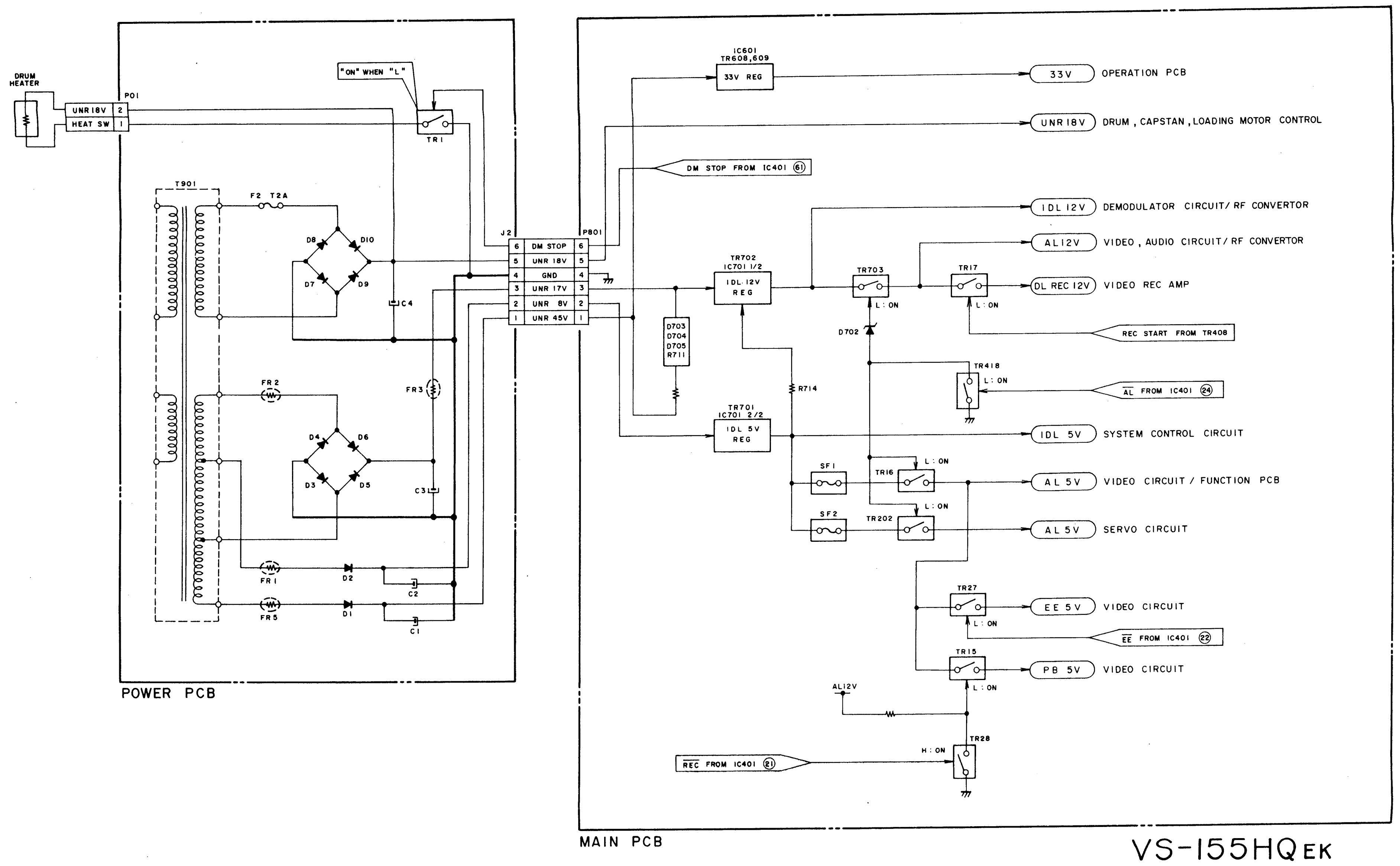
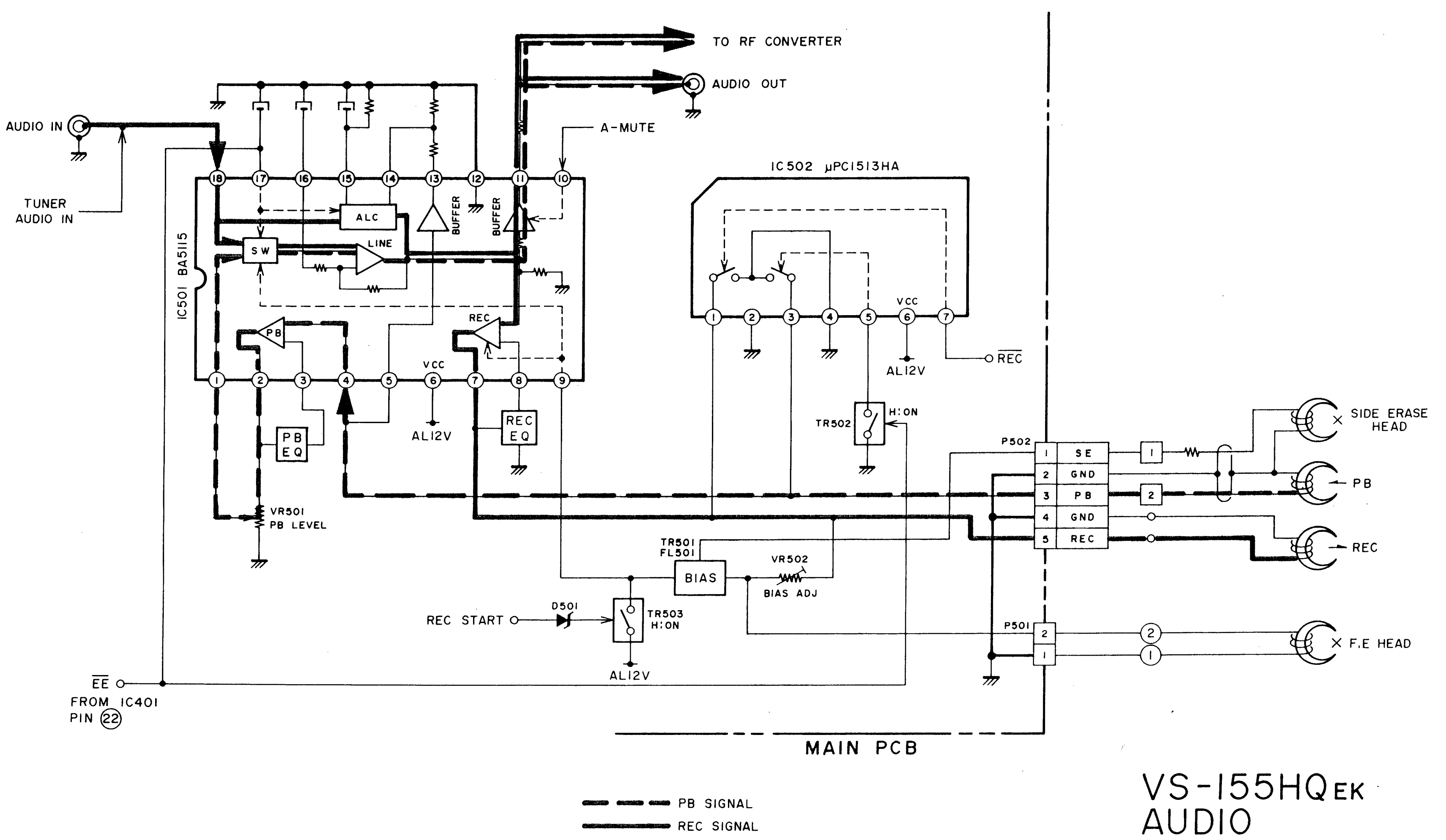

DRUM HEATER
P01
UNR 18V 2
HEAT SW 1
"ON" WHEN "L"
TR1
T901
F2 T2A
D8 D10 D7 D9
C4
FR2
FR3
D4 D6 D3 D5
C3
FR1 D2 C2
FR5 D1 C1
POWER PCB
J2
P801
6 DM STOP 6
5 UNR 18V 5
4 GND 4
3 UNR 17V 3
2 UNR 8V 2
1 UNR 45V 1
IC601 TR608,609
33V REG
33V OPERATION PCB
UNR18V DRUM, CAPSTAN, LOADING MOTOR CONTROL
DM STOP FROM IC401 (61)
IDL 12V DEMODULATOR CIRCUIT/ RF CONVERTOR
AL12V VIDEO, AUDIO CIRCUIT/ RF CONVERTOR
DL REC 12V VIDEO REC AMP
TR702 IC701 1/2
IDL 12V REG
TR703 L:ON
TR17 L:ON
D703 D704 D705 R711
D702
REC START FROM TR408
TR418 L:ON
AL FROM IC401 ㉔
R714
TR701 IC701 2/2
IDL 5V REG
IDL 5V SYSTEM CONTROL CIRCUIT
SF1
TR16 L:ON
AL 5V VIDEO CIRCUIT / FUNCTION PCB
SF2
TR202 L:ON
AL 5V SERVO CIRCUIT
TR27 L:ON
EE 5V VIDEO CIRCUIT
EE FROM IC401 ㉒
TR15 L:ON
PB 5V VIDEO CIRCUIT
AL12V
TR28 H:ON
REC FROM IC401 ㉑
MAIN PCB

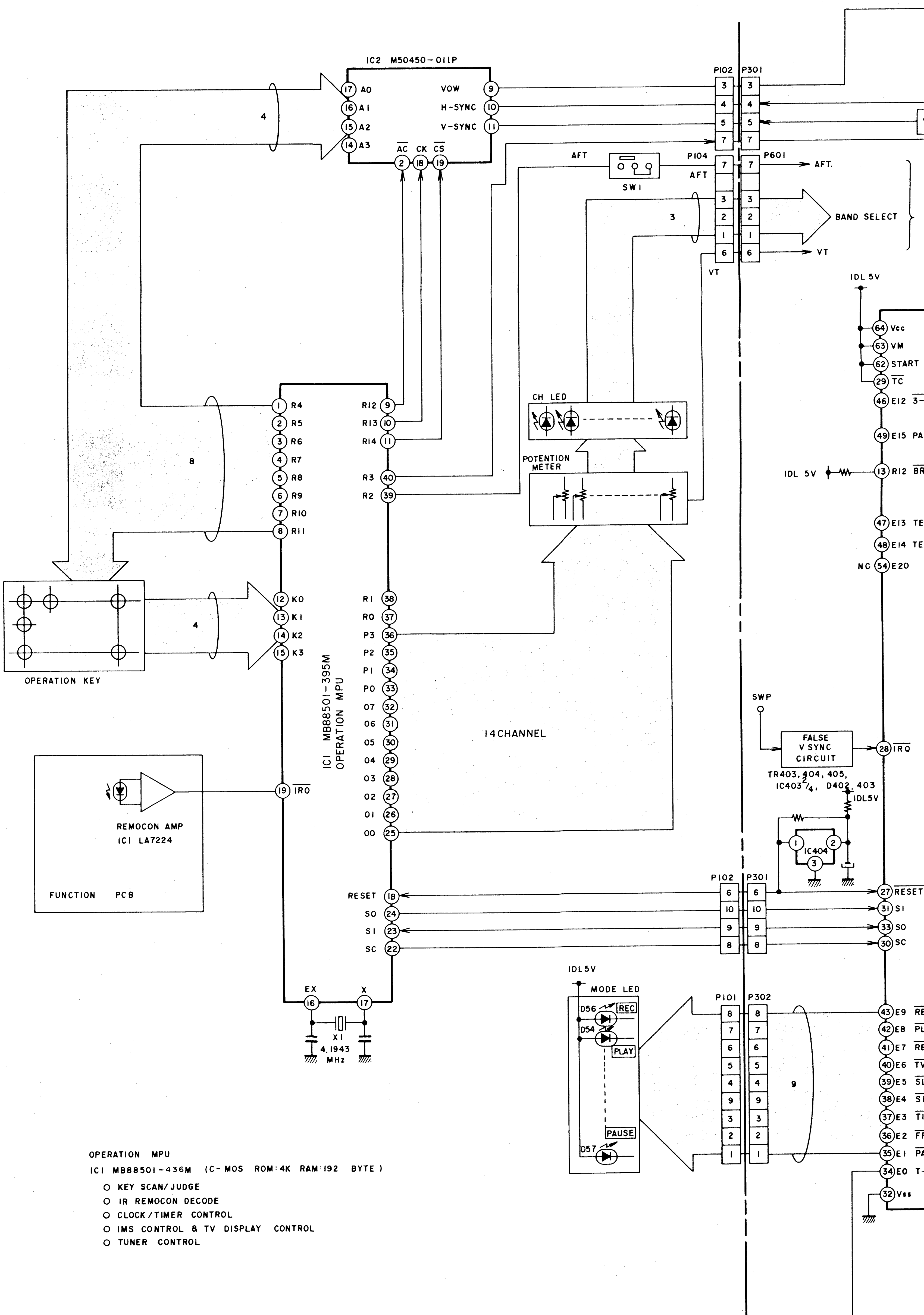
VS-155HQEK
POWER SUPPLY
BLOCK DIAGRAM

NO.5-1 860701A


TO RF CONVERTER
AUDIO OUT
AUDIO IN
TUNER AUDIO IN
A-MUTE
IC501 BA5115
ALC
LINE
SW
BUFFER
BUFFER
PB
REC
VCC
AL12V
PB EQ
REC EQ
VR501 PB LEVEL
IC502 μPC1513HA
VCC
AL12V
REC
TR502 H:ON
P502
1 SE
2 GND
3 PB
4 GND
5 REC
SIDE ERASE HEAD
PB
REC
TR501 FL501
BIAS
VR502 BIAS ADJ
D501
REC START
TR503 H:ON
AL12V
P501
F.E HEAD
EE FROM IC401 PIN ㉒
MAIN PCB
PB SIGNAL
REC SIGNAL

VS-155HQEK
AUDIO
BLOCK DIAGRAM

NO.5-2 860702A

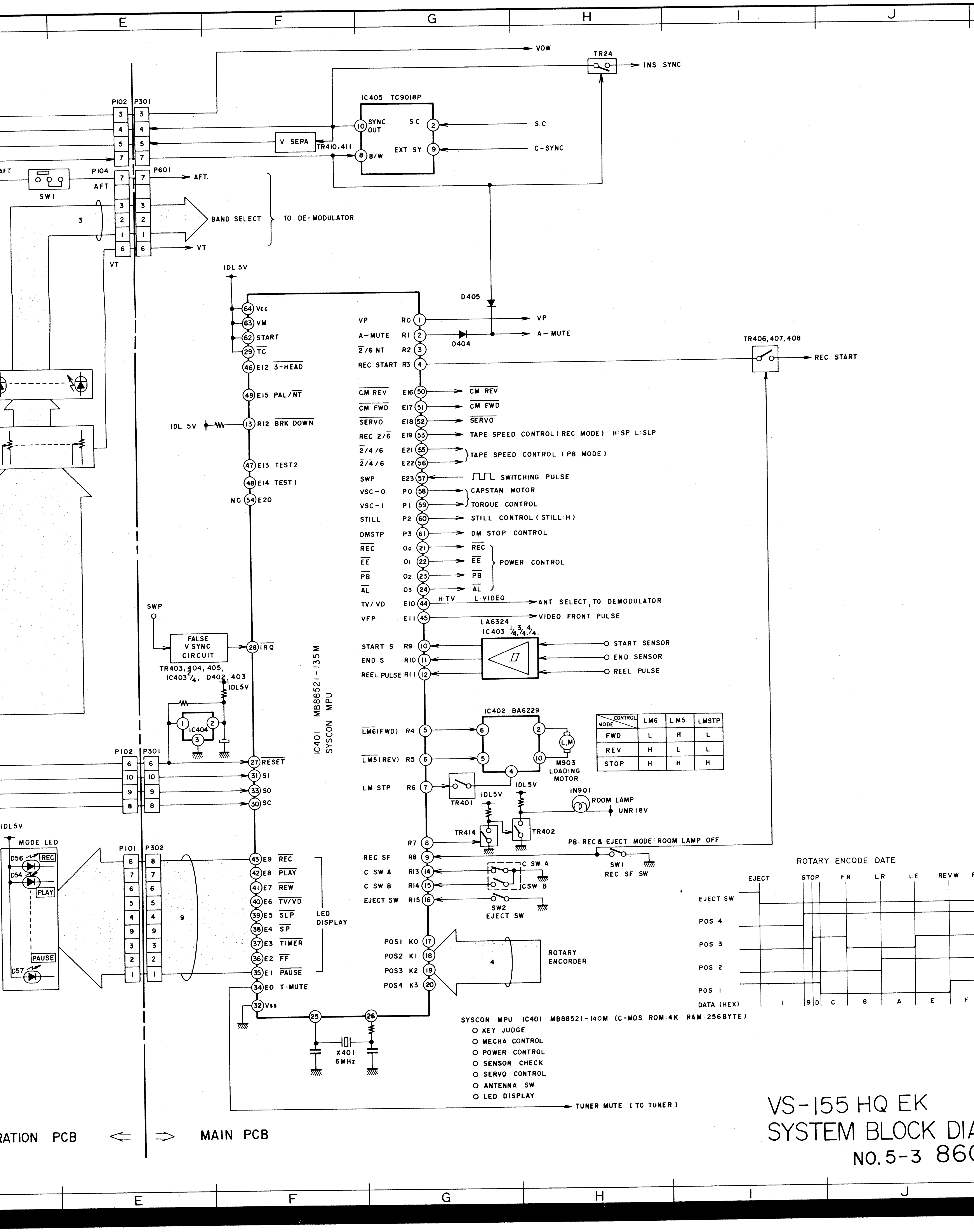

IC2 M50450-011P
A0
A1
A2
A3
VOW
H-SYNC
V-SYNC
AC CK CS
4
P102 P301
AFT
SW1
P104
P601
AFT.
BAND SELECT
VT
3
IDL 5V
Vcc
VM
START
TC
E12
E15
R12
E13
E14
NC E20
CH LED
POTENTION METER
R4 R5 R6 R7 R8 R9 R10 R11
R12 R13 R14
R3 R2
8
K0 K1 K2 K3
OPERATION KEY
R1 R0 P3 P2 P1 P0 07 06 05 04 03 02 01 00
IC1 MB88501-395M OPERATION MPU
14CHANNEL
IRO
REMOCON AMP
IC1 LA7224
FUNCTION PCB
SWP
FALSE V SYNC CIRCUIT
TR403, 404, 405, IC403 2/4, D402, 403
IDL5V
IC404
IRQ
RESET
SO SI SC
RESET
SI SO SC
EX X
X1 4.1943 MHz
IDL5V
MODE LED
D56 REC
D54 PLAY
PAUSE
D57
P101 P302
9
E9 E8 E7 E6 E5 E4 E3 E2 E1 E0
Vss
A B C D E F
1 2 3 4 5 6 7 8

OPERATION MPU

IC1 MB88501-436M (C-MOS ROM:4K RAM:192 BYTE)

- ○ KEY SCAN/JUDGE
- ○ IR REMOCON DECODE
- ○ CLOCK/TIMER CONTROL
- ○ IMS CONTROL & TV DISPLAY CONTROL
- ○ TUNER CONTROL

OPERATION PCB ⇐ | ⇒ MAIN PCB

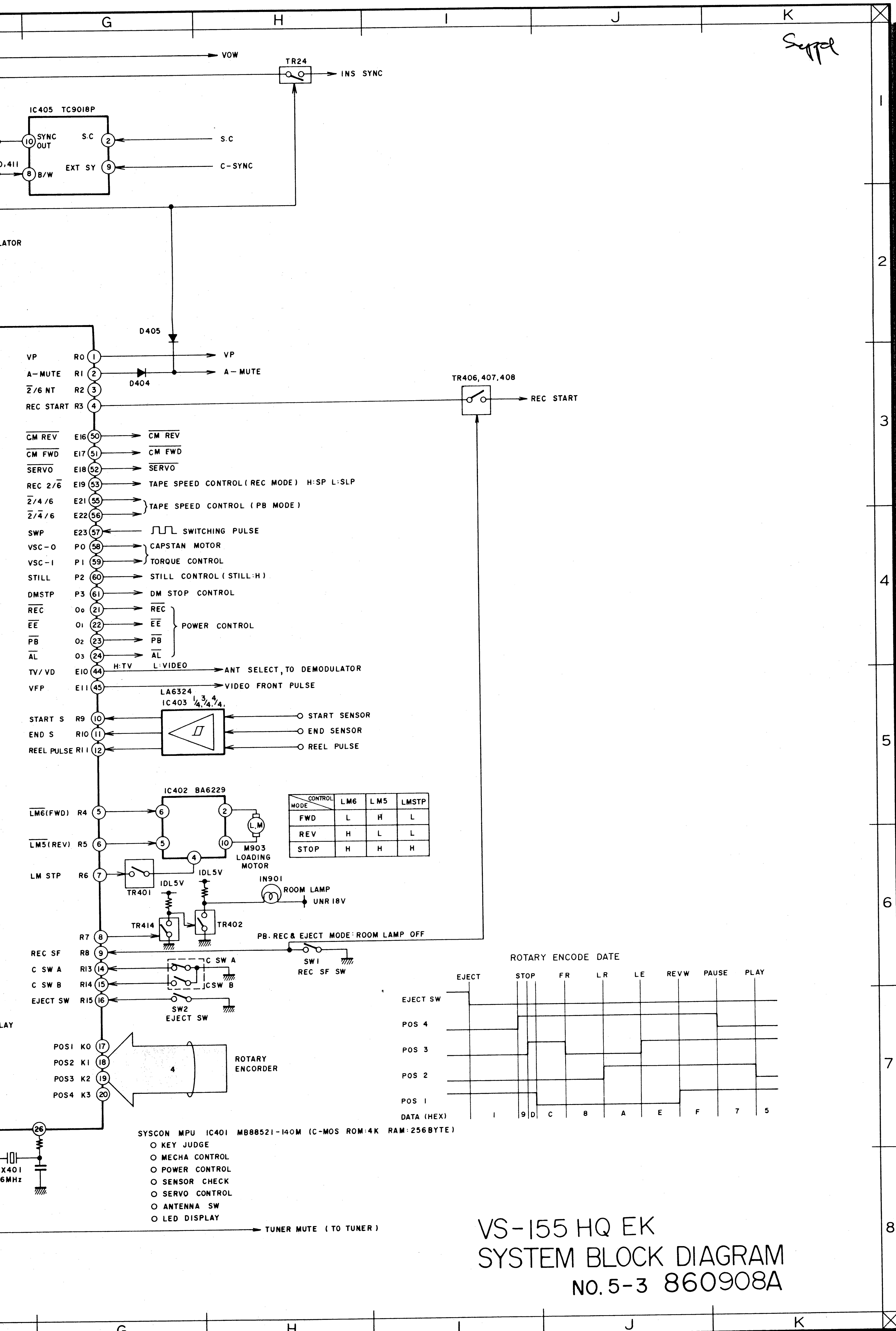

E
F
G
H
I
J
VOW
TR24
INS SYNC
IC405 TC9018P
SYNC OUT
S.C
EXT SY
B/W
S.C
C-SYNC
V SEPA
TR410,411
P102
P301
AFT
SW1
P104
AFT
P601
AFT.
BAND SELECT
TO DE-MODULATOR
VT
VT
3
IDL 5V
D405
64 Vcc
63 VM
62 START
29 TC
46 E12 3-HEAD
49 E15 PAL/NT
IDL 5V
13 R12 BRK DOWN
47 E13 TEST2
48 E14 TEST1
NC 54 E20
VP R0 1
A-MUTE R1 2
2/6 NT R2 3
REC START R3 4
VP
D404
A-MUTE
TR406,407,408
REC START
CM REV E16 50
CM FWD E17 51
SERVO E18 52
REC 2/6 E19 53
2/4/6 E21 55
2/4/6 E22 56
SWP E23 57
VSC-0 P0 58
VSC-1 P1 59
STILL P2 60
DMSTP P3 61
REC O0 21
EE O1 22
PB O2 23
AL O3 24
TV/VD E10 44
VFP E11 45
CM REV
CM FWD
SERVO
TAPE SPEED CONTROL (REC MODE) H:SP L:SLP
TAPE SPEED CONTROL (PB MODE)
SWITCHING PULSE
CAPSTAN MOTOR
TORQUE CONTROL
STILL CONTROL (STILL:H)
DM STOP CONTROL
REC
EE
PB
AL
POWER CONTROL
H:TV L:VIDEO
ANT SELECT, TO DEMODULATOR
VIDEO FRONT PULSE
SWP
FALSE V SYNC CIRCUIT
TR403,404,405, IC403 2/4, D402,403
28 IRQ
IDL5V
IC404
LA6324 IC403 1/4,3/4,4/4
START S R9 10
END S R10 11
REEL PULSE R11 12
START SENSOR
END SENSOR
REEL PULSE
IC401 MB88521-135M SYSCON MPU
IC402 BA6229
LM6(FWD) R4 5
LM5(REV) R5 6
LM STP R6 7
M903 LOADING MOTOR
L.M
IDL5V
IN901
ROOM LAMP
UNR 18V
TR401
IDL5V
TR414
TR402
R7 8
PB. REC & EJECT MODE: ROOM LAMP OFF
REC SF R8 9
C SW A R13 14
C SW B R14 15
EJECT SW R15 16
C SW A
C SW B
SW1 REC SF SW
SW2 EJECT SW
27 RESET
31 SI
33 SO
30 SC
IDL5V
MODE LED
D56 REC
D54 PLAY
PAUSE
D57
P101
P302
9
43 E9 REC
42 E8 PLAY
41 E7 REW
40 E6 TV/VD
39 E5 SLP
38 E4 SP
37 E3 TIMER
36 E2 FF
35 E1 PAUSE
34 E0 T-MUTE
32 Vss
LED DISPLAY
POS1 K0 17
POS2 K1 18
POS3 K2 19
POS4 K3 20
4
ROTARY ENCORDER
25
26
X401 6MHz
TUNER MUTE (TO TUNER)
ROTARY ENCODE DATE
EJECT
STOP
FR
LR
LE
REVW
EJECT SW
POS 4
POS 3
POS 2
POS 1
DATA (HEX)
1
9
D
C
8
A
E
F
RATION PCB
MAIN PCB

CONTROL / MODE	LM6	LM5	LMSTP
FWD	L	H	L
REV	H	L	L
STOP	H	H	H

SYSCON MPU IC401 MB88521-140M (C-MOS ROM:4K RAM:256BYTE)
- ○ KEY JUDGE
- ○ MECHA CONTROL
- ○ POWER CONTROL
- ○ SENSOR CHECK
- ○ SERVO CONTROL
- ○ ANTENNA SW
- ○ LED DISPLAY

VS-155 HQ EK
SYSTEM BLOCK DIA
NO. 5-3 86

Suppl

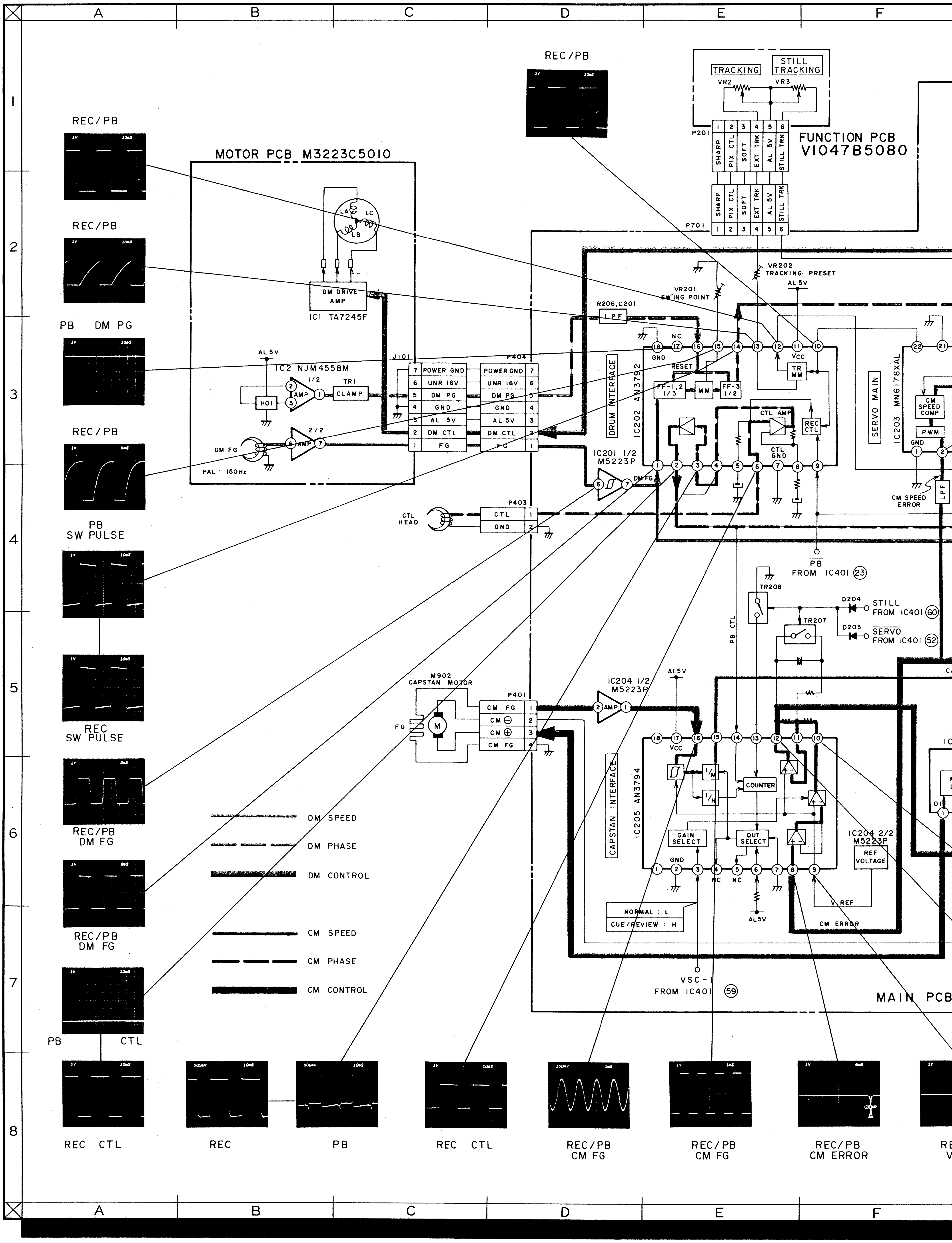

G
H
I
J
K
1
2
3
4
5
6
7
8
VOW
TR24
INS SYNC
IC405 TC9018P
SYNC OUT
10
S.C
2
S.C
).411
8
B/W
EXT SY
9
C-SYNC
LATOR
D405
VP
R0
1
VP
A-MUTE
R1
2
D404
A-MUTE
2/6 NT
R2
3
TR406,407,408
REC START
R3
4
REC START
CM REV
E16
50
CM REV
CM FWD
E17
51
CM FWD
SERVO
E18
52
SERVO
REC 2/6
E19
53
TAPE SPEED CONTROL (REC MODE) H:SP L:SLP
2/4/6
E21
55
2/4/6
E22
56
TAPE SPEED CONTROL (PB MODE)
SWP
E23
57
SWITCHING PULSE
VSC-0
P0
58
CAPSTAN MOTOR
VSC-1
P1
59
TORQUE CONTROL
STILL
P2
60
STILL CONTROL (STILL:H)
DMSTP
P3
61
DM STOP CONTROL
REC
O0
21
REC
EE
O1
22
EE
PB
O2
23
PB
AL
O3
24
AL
POWER CONTROL
TV/VD
E10
44
H:TV L:VIDEO
ANT SELECT, TO DEMODULATOR
VFP
E11
45
VIDEO FRONT PULSE
LA6324
IC403 1/4, 3/4, 4/4.
START S
R9
10
START SENSOR
END S
R10
11
END SENSOR
REEL PULSE
R11
12
REEL PULSE
IC402 BA6229
LM6(FWD)
R4
5
6
2
L.M
LM5(REV)
R5
6
5
10
M903
LOADING MOTOR
4
LM STP
R6
7
TR401
IDL5V
IDL5V
IN901
ROOM LAMP
UNR 18V
TR414
TR402
R7
8
PB. REC & EJECT MODE: ROOM LAMP OFF
REC SF
R8
9
SW1
REC SF SW
C SW A
R13
14
C SW A
C SW B
R14
15
CSW B
EJECT SW
R15
16
SW2
EJECT SW
LAY
POS1
K0
17
POS2
K1
18
POS3
K2
19
POS4
K3
20
4
ROTARY ENCORDER
26
X401
6MHz
ROTARY ENCODE DATE
EJECT
STOP
FR
LR
LE
REVW
PAUSE
PLAY
EJECT SW
POS 4
POS 3
POS 2
POS 1
DATA (HEX)
1
9
D
C
8
A
E
F
7
5
TUNER MUTE (TO TUNER)

MODE \ CONTROL	LM6	LM5	LMSTP
FWD	L	H	L
REV	H	L	L
STOP	H	H	H

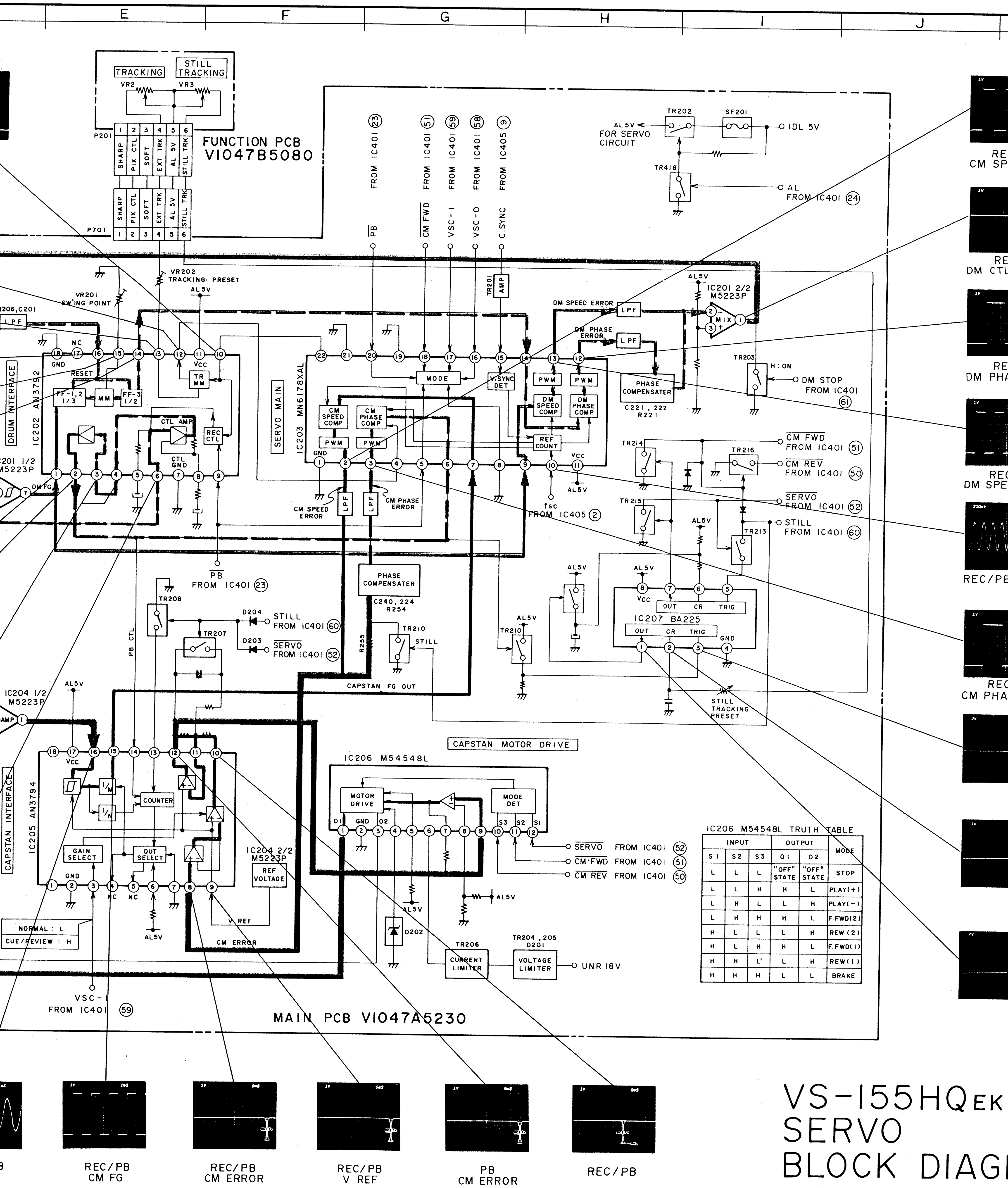
SYSCON MPU IC401 MB88521-140M (C-MOS ROM:4K RAM:256BYTE)

- O KEY JUDGE
- O MECHA CONTROL
- O POWER CONTROL
- O SENSOR CHECK
- O SERVO CONTROL
- O ANTENNA SW
- O LED DISPLAY

VS-155 HQ EK
SYSTEM BLOCK DIAGRAM
NO. 5-3 860908A



A
B
C
D
E
F
1
2
3
4
5
6
7
8
REC/PB
MOTOR PCB M3223C5010
TRACKING
STILL TRACKING
VR2
VR3
P201
SHARP
PIX CTL
SOFT
EXT TRK
AL 5V
STILL TRK
FUNCTION PCB V1047B5080
P701
LA
LC
LB
DM DRIVE AMP
IC1 TA7245F
PB DM PG
AL 5V
IC2 NJM4558M
1/2
AMP
TR1
CLAMP
HO1
2/2
DM FG
PAL : 150Hz
J101
P404
POWER GND
UNR 16V
DM PG
GND
AL 5V
DM CTL
FG
VR202
TRACKING PRESET
VR201
SW'ING POINT
R206,C201
LPF
NC
GND
RESET
VCC
TR MM
FF-1,2 1/3
MM
FF-3 1/2
CTL AMP
REC CTL
CTL GND
DRUM INTERFACE
IC202 AN3792
IC201 1/2
M5223P
DM FG
SERVO MAIN
IC203 MN6178XAL
CM SPEED COMP
PWM
CM SPEED ERROR
LPF
P403
CTL
CTL HEAD
PB SW PULSE
PB FROM IC401 (23)
TR208
D204
STILL FROM IC401 (60)
TR207
D203
SERVO FROM IC401 (52)
PB CTL
REC SW PULSE
M902
CAPSTAN MOTOR
P401
CM FG
CM ⊖
CM ⊕
FG
M
IC204 1/2
M5223P
AMP
AL5V
COUNTER
GAIN SELECT
OUT SELECT
CAPSTAN INTERFACE
IC205 AN3794
IC204 2/2
M5223P
REF VOLTAGE
V REF
CM ERROR
NORMAL : L
CUE/REVIEW : H
VSC-I FROM IC401 (59)
MAIN PCB
REC/PB DM FG
DM SPEED
DM PHASE
DM CONTROL
CM SPEED
CM PHASE
CM CONTROL
PB
CTL
REC CTL
REC
PB
REC CTL
REC/PB CM FG
REC/PB CM FG
REC/PB CM ERROR

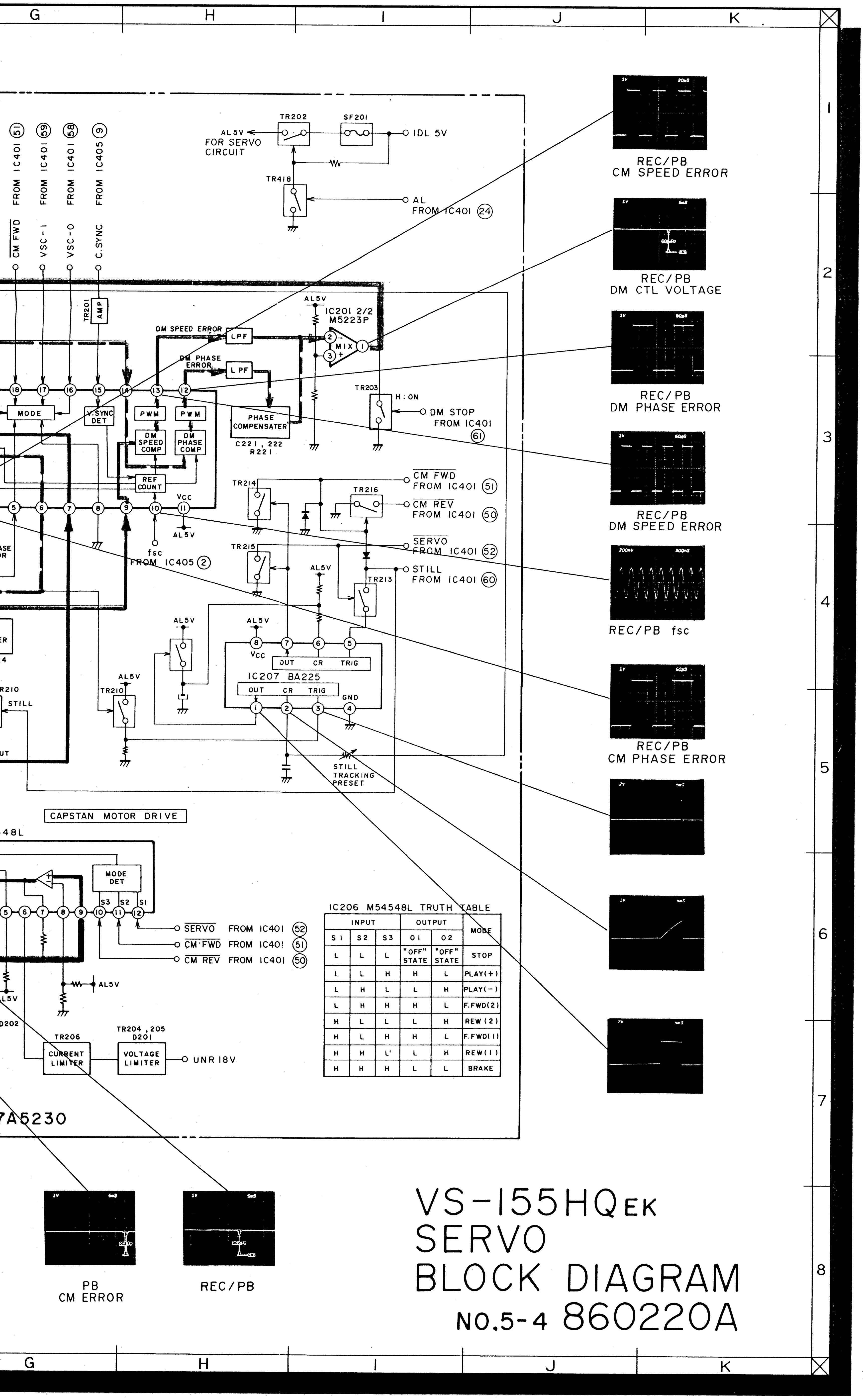

E
F
G
H
I
J
TRACKING
STILL TRACKING
VR2
VR3
P201
FUNCTION PCB
V1047B5080
SHARP
PIX CTL
SOFT
EXT TRK
AL 5V
STILL TRK
P701
FROM IC401 (23)
FROM IC401 (51)
FROM IC401 (59)
FROM IC401 (58)
FROM IC405 (9)
PB
CM FWD
VSC-1
VSC-0
C.SYNC
TR202
SF201
AL5V FOR SERVO CIRCUIT
IDL 5V
TR418
AL
FROM IC401 (24)
VR202
TRACKING PRESET
VR201
SW'ING POINT
AL5V
TR201
AMP
IC201 2/2
M5223P
MIX
DM SPEED ERROR
LPF
DM PHASE ERROR
206,C201
NC
GND
RESET
FF-1,2 1/3
MM
FF-3 1/2
Vcc
TR MM
DRUM INTERFACE
IC202 AN3792
CTL AMP
CTL GND
REC CTL
SERVO MAIN
IC203 MN6178XAL
MODE
V.SYNC DET
CM SPEED COMP
CM PHASE COMP
PWM
REF COUNT
DM SPEED COMP
DM PHASE COMP
PHASE COMPENSATER
C221, 222
R221
TR203
H: ON
DM STOP
FROM IC401 (61)
201 1/2
M5223P
DM FG
CM SPEED ERROR
CM PHASE ERROR
fsc
FROM IC405 (2)
TR214
TR216
CM FWD
FROM IC401 (51)
CM REV
FROM IC401 (50)
TR215
SERVO
FROM IC401 (52)
STILL
FROM IC401 (60)
TR213
PB
FROM IC401 (23)
PHASE COMPENSATER
C240, 224
R254
TR208
D204
STILL
FROM IC401 (60)
TR207
D203
SERVO
FROM IC401 (52)
PB CTL
R255
TR210
STILL
CAPSTAN FG OUT
IC207 BA225
OUT
CR
TRIG
STILL TRACKING PRESET
IC204 1/2
M5223P
AMP
CAPSTAN MOTOR DRIVE
IC206 M54548L
MOTOR DRIVE
MODE DET
CAPSTAN INTERFACE
IC205 AN3794
1/M
1/N
COUNTER
GAIN SELECT
OUT SELECT
IC204 2/2
M5223P
REF VOLTAGE
NORMAL : L
CUE/REVIEW : H
V REF
CM ERROR
D202
TR206
CURRENT LIMITER
TR204, 205
D201
VOLTAGE LIMITER
UNR 18V
SERVO FROM IC401 (52)
CM FWD FROM IC401 (51)
CM REV FROM IC401 (50)
VSC-1
FROM IC401 (59)
MAIN PCB V1047A5230
RE
CM SP
RE
DM CTL
RE
DM PHA
REC
DM SPE
REC/PB
REC
CM PHA
REC/PB
CM FG
REC/PB
CM ERROR
REC/PB
V REF
PB
CM ERROR
REC/PB

IC206 M54548L TRUTH TABLE

INPUT			OUTPUT		MODE
S1	S2	S3	O1	O2	
L	L	L	"OFF" STATE	"OFF" STATE	STOP
L	L	H	H	L	PLAY(+)
L	H	L	L	H	PLAY(−)
L	H	H	H	L	F.FWD(2)
H	L	L	L	H	REW(2)
H	L	H	H	L	F.FWD(1)
H	H	L	L	H	REW(1)
H	H	H	L	L	BRAKE

VS-155HQEK
SERVO
BLOCK DIAG

NO.5-4 8602

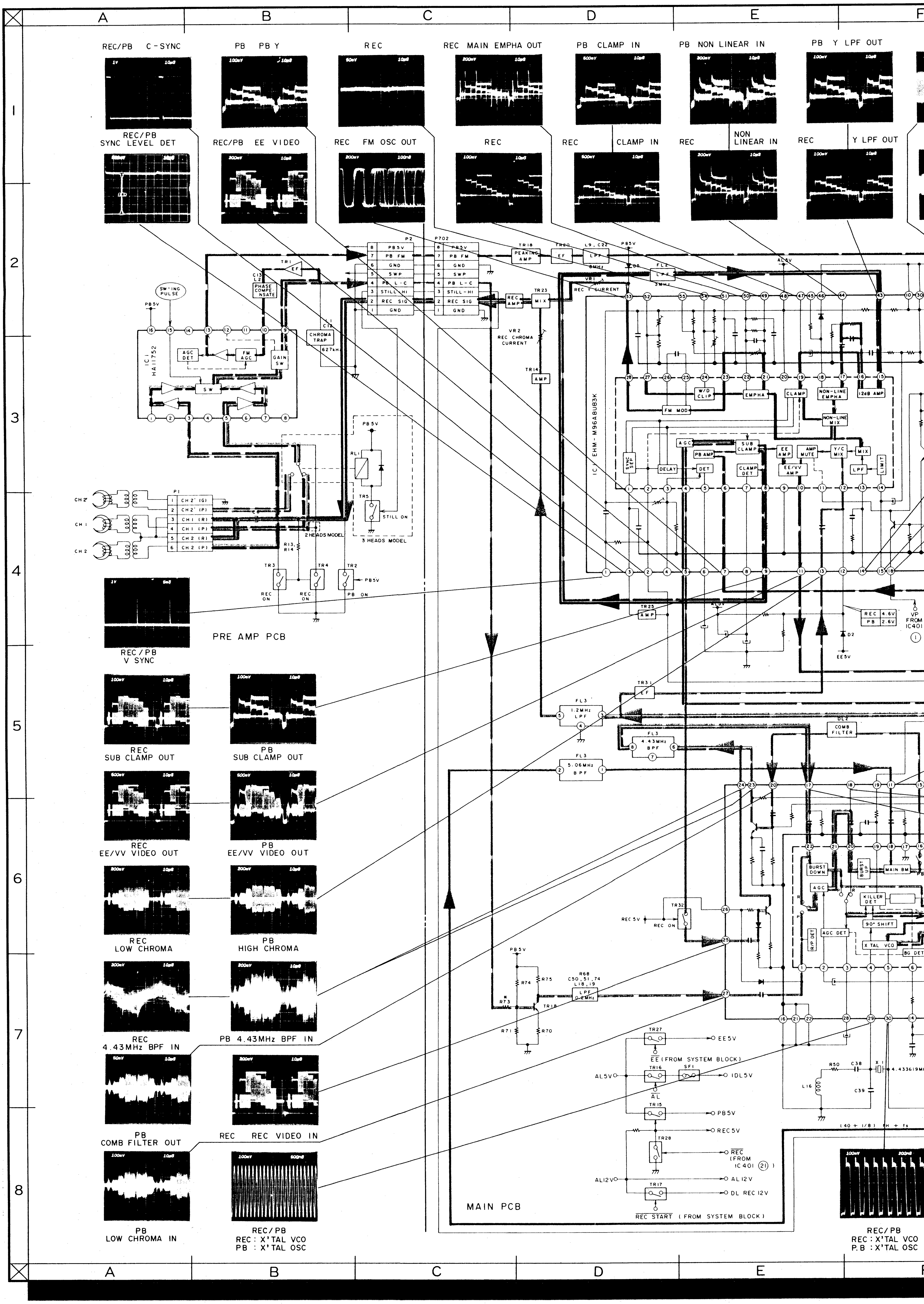

G
H
I
J
K
1
2
3
4
5
6
7
8
TR202
SF201
AL5V
FOR SERVO CIRCUIT
IDL 5V
TR418
AL FROM IC401 (24)
CM FWD FROM IC401 (51)
VSC-1 FROM IC401 (59)
VSC-0 FROM IC401 (58)
C.SYNC FROM IC405 (9)
TR201 AMP
IC201 2/2 M5223P
DM SPEED ERROR
DM PHASE ERROR
LPF
LPF
MIX
TR203
H: ON
DM STOP FROM IC401 (61)
MODE
V.SYNC DET
PWM
PWM
DM SPEED COMP
DM PHASE COMP
PHASE COMPENSATER
C221, 222 R221
REF COUNT
VCC
fsc FROM IC405 (2)
TR214
TR216
CM FWD FROM IC401 (51)
CM REV FROM IC401 (50)
TR215
SERVO FROM IC401 (52)
STILL FROM IC401 (60)
TR213
IC207 BA225
OUT CR TRIG
GND
TR210
STILL
STILL TRACKING PRESET
CAPSTAN MOTOR DRIVE
48L
MODE DET
S3 S2 S1
SERVO FROM IC401 (52)
CM FWD FROM IC401 (51)
CM REV FROM IC401 (50)
TR206
CURRENT LIMITER
TR204, 205 D201
VOLTAGE LIMITER
UNR 18V
D202
7A5230
REC/PB CM SPEED ERROR
REC/PB DM CTL VOLTAGE
REC/PB DM PHASE ERROR
REC/PB DM SPEED ERROR
REC/PB fsc
REC/PB CM PHASE ERROR
PB CM ERROR
REC/PB

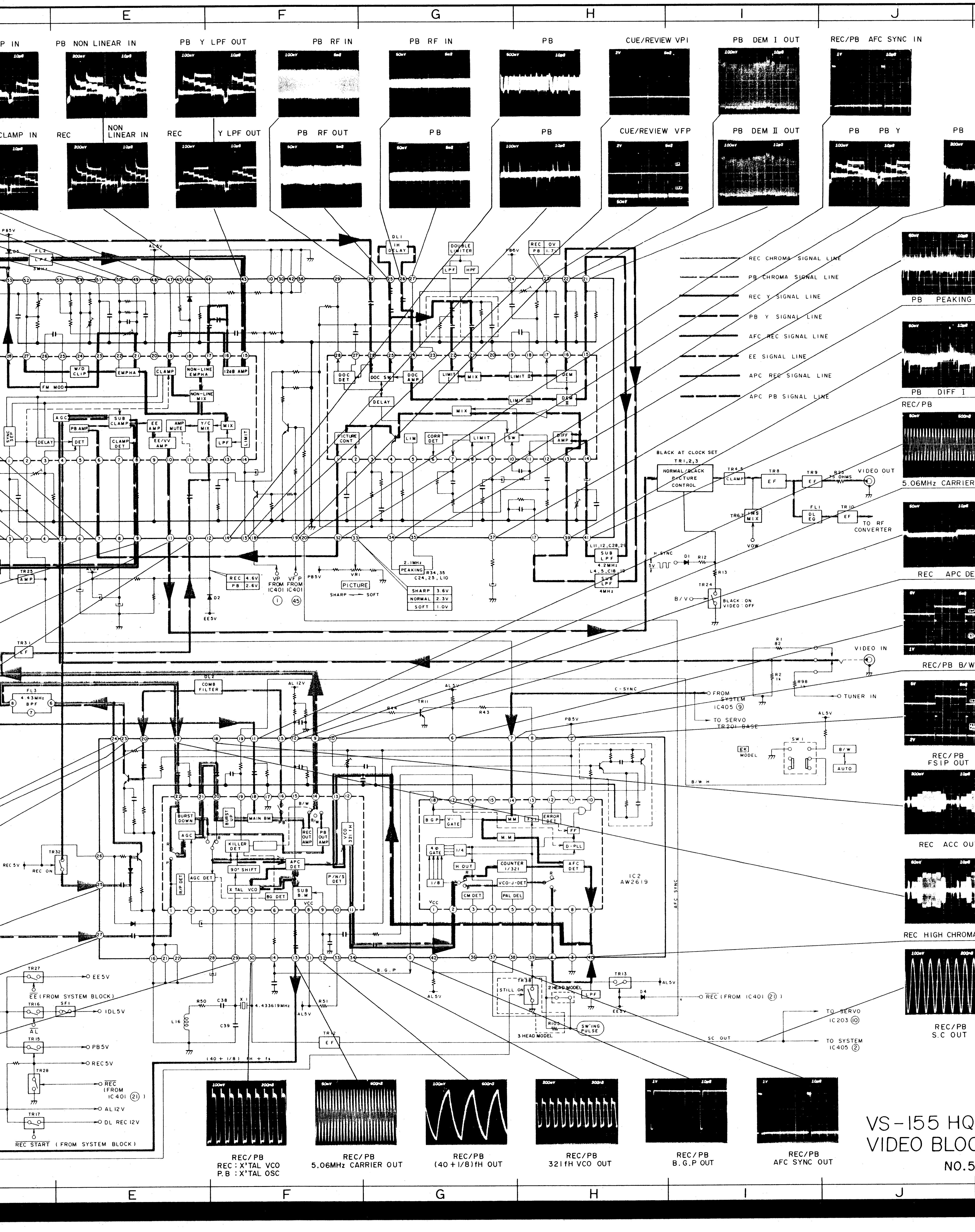
IC206 M54548L TRUTH TABLE

INPUT			OUTPUT		MODE
S1	S2	S3	O1	O2	
L	L	L	"OFF" STATE	"OFF" STATE	STOP
L	L	H	H	L	PLAY(+)
L	H	L	L	H	PLAY(−)
L	H	H	H	L	F.FWD(2)
H	L	L	L	H	REW(2)
H	L	H	H	L	F.FWD(1)
H	H	L	L	H	REW(1)
H	H	H	L	L	BRAKE

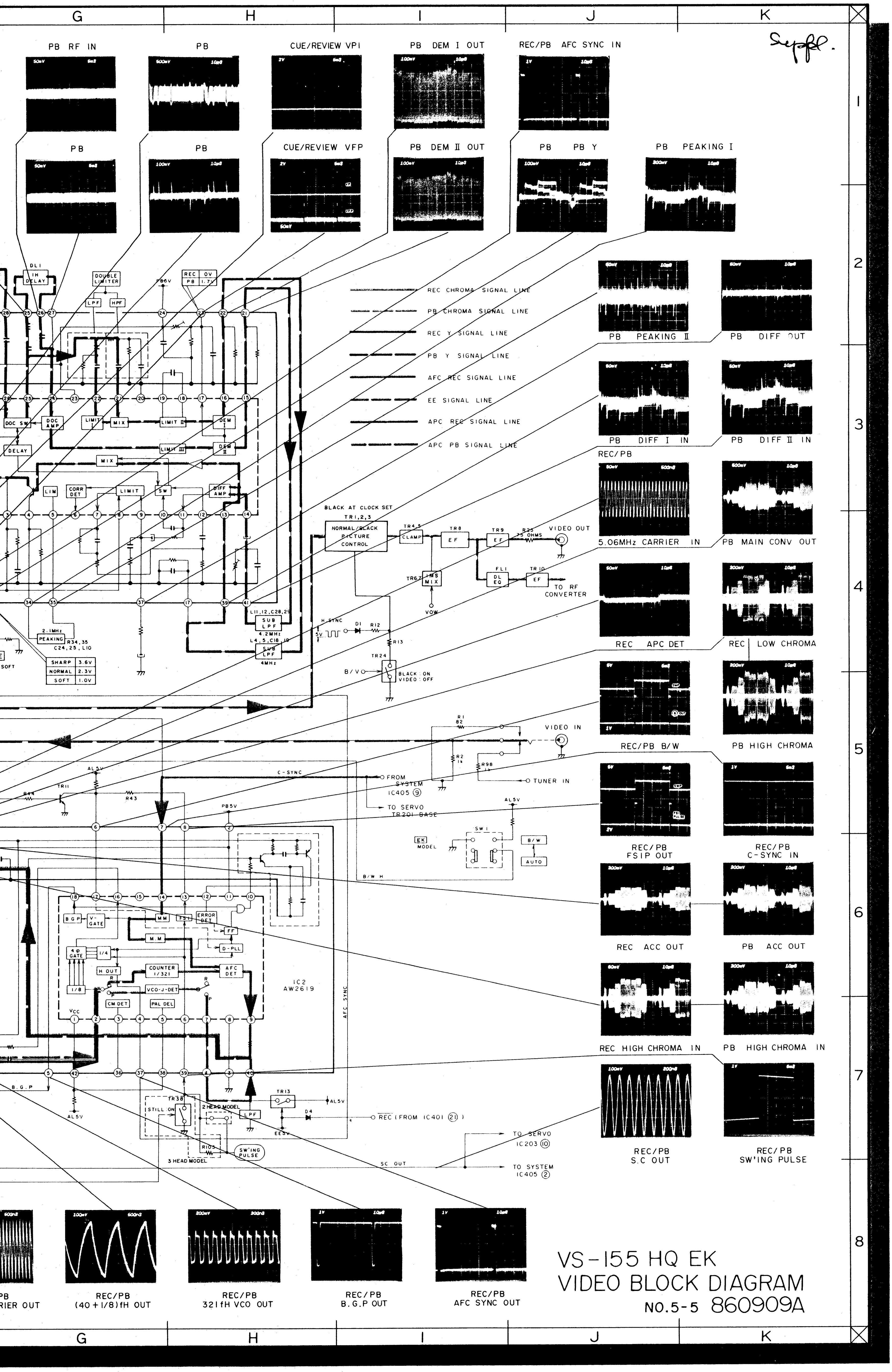
VS-155HQEK
SERVO
BLOCK DIAGRAM

NO.5-4 860220A


A
B
C
D
E
F
1
2
3
4
5
6
7
8
REC/PB C-SYNC
PB PB Y
REC
REC MAIN EMPHA OUT
PB CLAMP IN
PB NON LINEAR IN
PB Y LPF OUT
REC/PB SYNC LEVEL DET
REC/PB EE VIDEO
REC FM OSC OUT
REC
REC CLAMP IN
REC NON LINEAR IN
REC Y LPF OUT
P2
P702
PB5V
PB FM
GND
SWP
PB L-C
STILL-HI
REC SIG
TR18 PEAKING AMP
TR20 EF
L9, C22 LPF 6MHz
FL2 LPF 3MHz
VR1 REC Y CURRENT
TR23 MIX
REC AMP
VR2 REC CHROMA CURRENT
TR14 AMP
TR1 EF
C13 L2 PHASE COMPENSATE
SWING PULSE
IC1 HA11752
AGC DET
FM AGC
GAIN SW
SW
L1 C12 CHROMA TRAP 627kHz
RL1
TR5
STILL ON
2 HEADS MODEL
3 HEADS MODEL
P1
CH2' (G)
CH2' (P)
CH1 (R)
CH1 (P)
CH2 (R)
CH2 (P)
R13, R14
TR3 REC ON
TR4 REC ON
TR2 PB ON
PB5V
PRE AMP PCB
IC EHM-M96A8U83K
W/D CLIP
FM MOD
EMPHA
CLAMP
NON-LINE EMPHA
12dB AMP
NON-LINE MIX
SYNC SEP
DELAY
AGC
PB AMP
DET
SUB CLAMP
CLAMP DET
EE AMP
AMP MUTE
EE/VV AMP
Y/C MIX
MIX
LPF
LIMIT
REC/PB V SYNC
TR25 AMP
AL5V
REC 4.6V
PB 2.6V
VP FROM IC401 ①
D2
EE5V
TR31 EF
FL3 1.2MHz LPF
FL3 4.43MHz BPF
FL3 5.06MHz BPF
DL2 COMB FILTER
REC SUB CLAMP OUT
PB SUB CLAMP OUT
REC EE/VV VIDEO OUT
PB EE/VV VIDEO OUT
REC LOW CHROMA
PB HIGH CHROMA
REC 4.43MHz BPF IN
PB 4.43MHz BPF IN
PB COMB FILTER OUT
REC REC VIDEO IN
PB LOW CHROMA IN
REC/PB
REC : X'TAL VCO
PB : X'TAL OSC
BURST DOWN
BURST UP
MAIN BM
AGC
KILLER DET
90° SHIFT
R/P DET
AGC DET
X TAL VCO
BG DET
TR32
REC 5V
REC ON
PB5V
R74
R75
R73
TR18
R71
R70
R68 C50, 51, 74 L18, 19 LPF 2MHz
TR27
EE5V
EE (FROM SYSTEM BLOCK)
AL5V
TR16
SF1
IDL5V
AL
TR15
PB5V
REC5V
TR28
REC (FROM IC401 (21))
AL12V
AL12V
TR17
DL REC 12V
REC START (FROM SYSTEM BLOCK)
MAIN PCB
R50
C38
X1
4.433619MHz
L16
C39
(40 + 1/8) fH + fs
REC/PB
REC : X'TAL VCO
P.B : X'TAL OSC

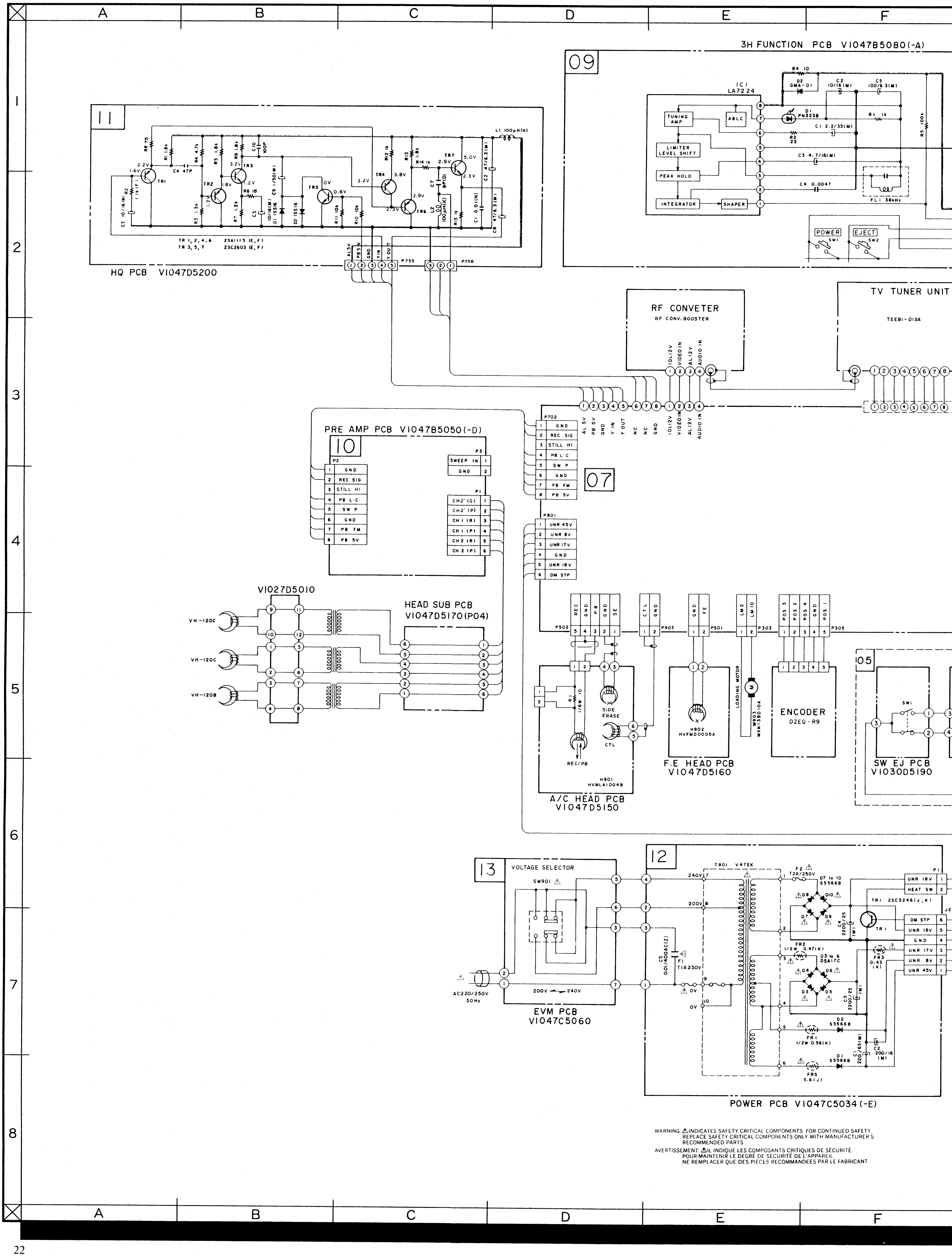

E
F
G
H
I
J
P IN
PB NON LINEAR IN
PB Y LPF OUT
PB RF IN
PB RF IN
PB
CUE/REVIEW VPI
PB DEM I OUT
REC/PB AFC SYNC IN
CLAMP IN
REC
NON LINEAR IN
REC
Y LPF OUT
PB RF OUT
PB
PB
CUE/REVIEW VFP
PB DEM II OUT
PB
PB Y
PB
PB PEAKING
PB DIFF I
REC/PB
5.06MHz CARRIER
REC APC DE
REC/PB B/W
REC/PB FSIP OUT
REC ACC OU
REC HIGH CHROMA
REC/PB S.C OUT
REC CHROMA SIGNAL LINE
PB CHROMA SIGNAL LINE
REC Y SIGNAL LINE
PB Y SIGNAL LINE
AFC REC SIGNAL LINE
EE SIGNAL LINE
APC REC SIGNAL LINE
APC PB SIGNAL LINE
DL1 1H DELAY
DOUBLE LIMITER
LPF
HPF
W/D CLIP
EMPHA
CLAMP
NON-LINE EMPHA
12dB AMP
FM MOD
NON-LINE MIX
AGC
SUB CLAMP
PB AMP
DET
DELAY
SYNC SEP
CLAMP DET
EE AMP
EE/VV AMP
AMP MUTE
Y/C MIX
MIX
LPF
LIMIT
DOC DET
DOC SW
DOC AMP
LIMIT I
MIX
LIMIT II
DEM I
DEM II
LIMIT III
DELAY
MIX
PICTURE CONT
LIM
CORR DET
LIMIT
SW
DIFF AMP
REC 4.6V
PB 2.6V
VP FROM IC401 ①
VFP FROM IC401 ㊺
VR1
PICTURE
SHARP — SOFT
2.1MHz PEAKING R34,35 C24,25,L10
SHARP 3.6V
NORMAL 2.3V
SOFT 1.0V
SUB LPF 4.2MHz L11,12,C28,29
SUB LPF 4MHz L4,5,C18,19
BLACK AT CLOCK SET
TR1,2,3
NORMAL/BLACK PICTURE CONTROL
TR4,5 CLAMP
TR8 EF
TR9 EF
R25 75 OHMS
VIDEO OUT
TR6,7 MIX
VOW
FL1 DL EQ
TR10 EF
TO RF CONVERTER
H.SYNC
TR24
B/V
BLACK : ON
VIDEO : OFF
TR25 AMP
TR31 EF
VIDEO IN
TUNER IN
FL3 4.43MHz BPF
DL2 COMB FILTER
C-SYNC
FROM SYSTEM IC405 ⑨
TO SERVO TR201 BASE
EK MODEL
SW1
B/W
AUTO
B/W H
AFC SYNC
BURST DOWN
BURST UP
MAIN BM
REC OUT AMP
PB OUT AMP
VCO 321fH
AGC
KILLER DET
90° SHIFT
APC DET
AGC DET
R/P DET
X'TAL VCO
BG DET
SUB B.M
P/N/S DET
BGP
V-GATE
MM
FSI
ERROR DET
FF
M.M
D-PLL
4Φ GATE
1/4
1/8
H OUT
COUNTER 1/321
AFC DET
VCO-J-DET
CM DET
PAL DEL
IC2 AW2619
TR32
REC 5V
REC ON
TR27
EE5V
EE (FROM SYSTEM BLOCK)
TR16
SF1
IDL5V
AL
TR15
PB5V
REC5V
TR28
REC (FROM IC401 ㉑)
AL12V
TR17
DL REC 12V
REC START (FROM SYSTEM BLOCK)
R50
C38
X1 4.433619MHz
L16
C39
R51
TR12 EF
(40 + 1/8) fH + fs
B.G.P
TR38
STILL ON
2 HEAD MODEL
3 HEAD MODEL
R105
SW'ING PULSE
LPF
TR13
D4
REC (FROM IC401 ㉑)
SC OUT
TO SERVO IC203 ⑩
TO SYSTEM IC405 ②
REC/PB
REC : X'TAL VCO
P.B : X'TAL OSC
REC/PB
5.06MHz CARRIER OUT
REC/PB
(40 + 1/8)fH OUT
REC/PB
321fH VCO OUT
REC/PB
B.G.P OUT
REC/PB
AFC SYNC OUT

VS-155 HQ
VIDEO BLOC
NO.5


G
H
I
J
K
1
2
3
4
5
6
7
8
Seyffel.
PB RF IN
PB
CUE/REVIEW VPI
PB DEM I OUT
REC/PB AFC SYNC IN
PB
PB
CUE/REVIEW VFP
PB DEM II OUT
PB PB Y
PB PEAKING I
PB PEAKING II
PB DIFF OUT
PB DIFF I IN
PB DIFF II IN
REC/PB
5.06MHz CARRIER IN
PB MAIN CONV OUT
REC APC DET
REC LOW CHROMA
REC/PB B/W
PB HIGH CHROMA
REC/PB FSIP OUT
REC/PB C-SYNC IN
REC ACC OUT
PB ACC OUT
REC HIGH CHROMA IN
PB HIGH CHROMA IN
REC/PB S.C OUT
REC/PB SW'ING PULSE
PB RIER OUT
REC/PB (40+1/8)fH OUT
REC/PB 321fH VCO OUT
REC/PB B.G.P OUT
REC/PB AFC SYNC OUT
REC CHROMA SIGNAL LINE
PB CHROMA SIGNAL LINE
REC Y SIGNAL LINE
PB Y SIGNAL LINE
AFC REC SIGNAL LINE
EE SIGNAL LINE
APC REC SIGNAL LINE
APC PB SIGNAL LINE
DL1 1H DELAY
DOUBLE LIMITER
LPF
HPF
PB6V
REC OV
PB I.T.
DOC SW
DOC AMP
LIMIT I
MIX
LIMIT II
DEM I
LIMIT III
DEM II
DELAY
MIX
LIM
CORR DET
LIMIT
SW
DIFF AMP
2.1MHz PEAKING
R34,35 C24,25,L10
SHARP 3.6V
NORMAL 2.3V
SOFT 1.0V
SOFT
L11,12,C28,29
SUB LPF
4.2MHz
L4,5,C18,19
SUB LPF
4MHz
BLACK AT CLOCK SET
TR1,2,3
NORMAL/BLACK PICTURE CONTROL
TR4,5 CLAMP
TR8 EF
TR9 EF
R25 75 OHMS
VIDEO OUT
TR6,7 MS MIX
VOW
FL1 DL EQ
TR10 EF
TO RF CONVERTER
H SYNC
5V
D1
R12
R13
TR24
B/V
BLACK: ON VIDEO: OFF
R1 82
VIDEO IN
R2 1k
R98 1k
TUNER IN
C-SYNC
FROM SYSTEM IC405 ⑨
TO SERVO TR201 BASE
AL5V
TR11
R44
R43
PB5V
SW1
EK MODEL
B/W
AUTO
B/W H
BGP
V-GATE
MM
FSI
ERROR DET
FF
D-PLL
MM
4Φ GATE
1/4
H OUT
COUNTER 1/321
AFC DET
1/8
VCO-J-DET
CM DET
PAL DEL
VCC
IC2 AW2619
AFC SYNC
B.G.P
AL5V
TR38
STILL ON
2 HEAD MODEL
LPF
TR13
AL5V
D4
REC (FROM IC401 ㉑)
EE5V
R102
SW'ING PULSE
3 HEAD MODEL
SC OUT
TO SERVO IC203 ⑩
TO SYSTEM IC405 ②

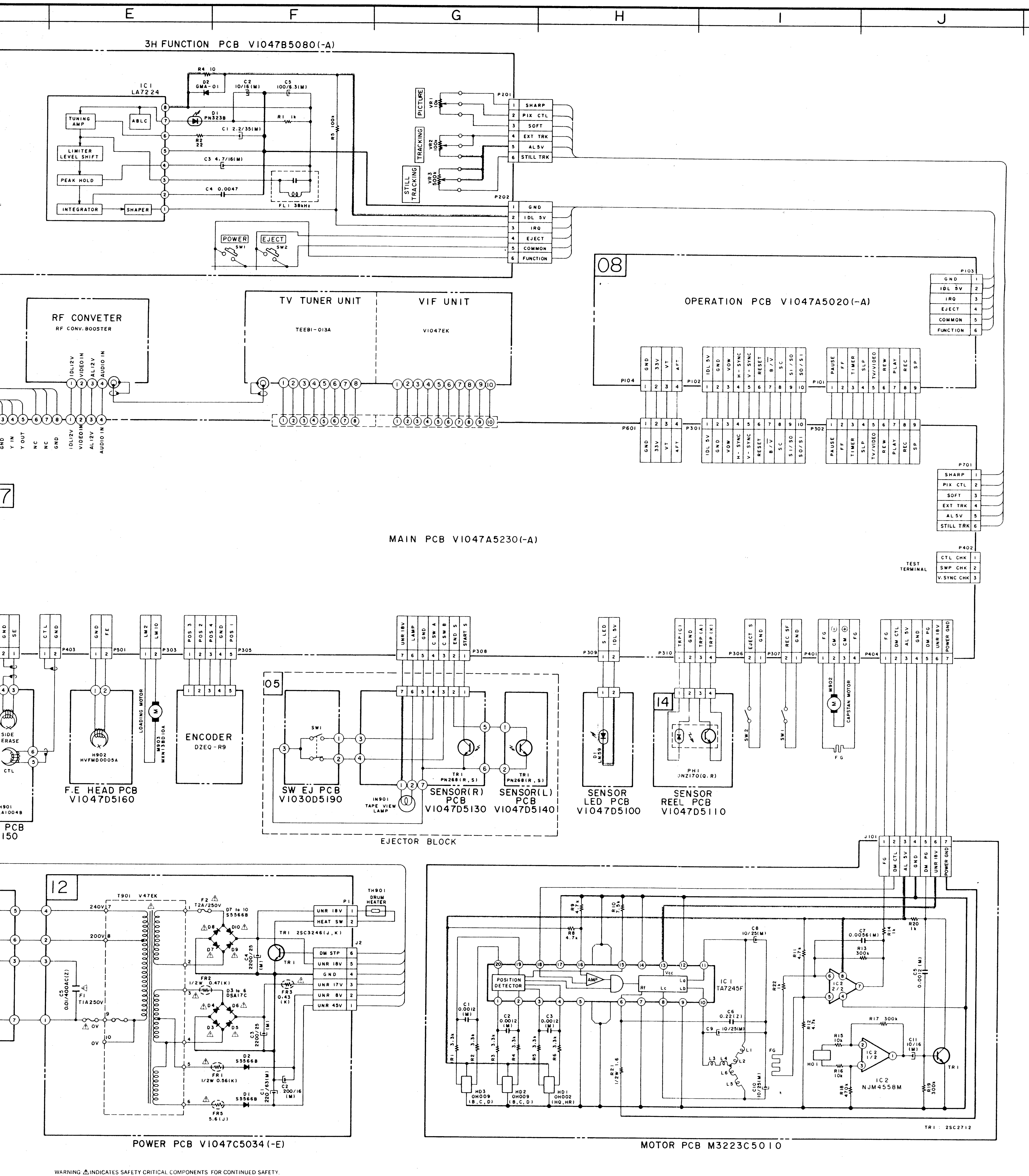
VS-155 HQ EK
VIDEO BLOCK DIAGRAM

NO.5-5 860909A


A
B
C
D
E
F
1
2
3
4
5
6
7
8
3H FUNCTION PCB V1047B5080(-A)
09
IC1 LA7224
TUNING AMP
ABLC
LIMITER LEVEL SHIFT
PEAK HOLD
INTEGRATOR
SHAPER
D1 PN323B
D2 GMA-01
FL1 38kHz
POWER SW1
EJECT SW2
11
HQ PCB V1047D5200
TR1, 2, 4, 6 2SA1115 (E, F)
TR3, 5, 7 2SC2603 (E, F)
L1 100μH(K)
P755
P756
RF CONVETER
RF CONV. BOOSTER
TV TUNER UNIT
TEEB1-013A
PRE AMP PCB V1047B5050(-D)
10
P2
P3
P1
SWEEP IN
CH2'(G)
CH2'(P)
CH1 (R)
CH1 (P)
CH2 (R)
CH2 (P)
P702
GND
REC SIG
STILL HI
PB L·C
SW P
PB FM
PB 5V
07
P801
UNR 45V
UNR 8V
UNR 17V
UNR 18V
DM STP
V1027D5010
VH-120C
VH-120B
HEAD SUB PCB V1047D5170(P04)
P502
P403
P501
P303
P305
SIDE ERASE
CTL
REC/PB
H901 HVMLA1004B
A/C HEAD PCB V1047D5150
H902 HVFMD0005A
F.E HEAD PCB V1047D5160
LOADING MOTOR
M903 MXN138D10A
ENCODER DZEQ-R9
05
SW EJ PCB V1030D5190
13
VOLTAGE SELECTOR
SW901
200V 240V
AC220/250V 50Hz
EVM PCB V1047C5060
12
T901 V47EK
F1 T1A250V
F2 T2A/250V
TR1 2SC3246(J, K)
HEAT SW
POWER PCB V1047C5034(-E)

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY.
REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ.
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL.
NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT


E
F
G
H
I
J
3H FUNCTION PCB V1047B5080(-A)
IC1 LA7224
TUNING AMP
ABLC
LIMITER LEVEL SHIFT
PEAK HOLD
INTEGRATOR
SHAPER
R4 10
D2 GMA-01
C2 10/16(M)
C5 100/6.3(M)
D1 PN323B
R1 1k
C1 2.2/35(M)
R2 22
R3 100k
C3 4.7/16(M)
C4 0.0047
FL1 38kHz
P201
SHARP
PIX CTL
SOFT
EXT TRK
AL5V
STILL TRK
PICTURE
VR1 10k
TRACKING
VR2 100k
STILL TRACKING
VR3 500k
P202
GND
IDL 5V
IRQ
EJECT
COMMON
FUNCTION
POWER
SW1
EJECT
SW2
08
OPERATION PCB V1047A5020(-A)
P103
RF CONVETER
RF CONV. BOOSTER
IDL12V
VIDEO IN
AL12V
AUDIO IN
TV TUNER UNIT
TEEB1-013A
VIF UNIT
V1047EK
P104
P102
P101
VT
AFT
VDW
H-SYNC
V-SYNC
RESET
B/V
SC
S1/S0
S0/S1
PAUSE
FF
TIMER
SLP
TV/VIDEO
REW
PLAY
REC
SP
P601
P301
P302
GND
Y IN
Y OUT
NC
7
MAIN PCB V1047A5230(-A)
P701
P402
TEST TERMINAL
CTL CHK
SWP CHK
V.SYNC CHK
SE
CTL
P403
FE
P501
LM2
LM10
P303
POS 3
POS 2
POS 4
POS 1
P305
UNR 18V
LAMP
C SW A
C SW B
END S
START S
P308
S LED
P309
TRP(C)
TRP(A)
TRP(K)
P310
EJECT S
P306
REC SF
P307
FG
CM
P401
DM CTL
AL 5V
DM PG
POWER GND
P404
SIDE ERASE
H902 HVFMD0005A
F.E HEAD PCB V1047D5160
LOADING MOTOR
M903 MXN13B010A
ENCODER DZEQ-R9
05
SW1
SW EJ PCB V1030D5190
IN901 TAPE VIEW LAMP
TR1 PN268(R,S)
SENSOR(R) PCB V1047D5130
SENSOR(L) PCB V1047D5140
EJECTOR BLOCK
D1 LN59
SENSOR LED PCB V1047D5100
14
PH1 ON2170(Q,R)
SENSOR REEL PCB V1047D5110
SW2
M902
CAPSTAN MOTOR
PCB
150
J101
12
T901 V47EK
240V
200V
F2 T2A/250V
D7 to 10 S5566B
D8
D10
D9
C4 2200/25 (M)
TR1 2SC3246(J,K)
FR2 1/2W 0.47(K)
D3 to 6 DSA17C
FR3 0.43 (K)
C3 2200/25 (M)
C5 0.01/400AC(Z)
F1 T1A250V
0V
D2 S5566B
FR1 1/2W 0.56(K)
C1 220/63(M)
C2 200/16 (M)
D1 S5566B
FR5 5.6(J)
TH901 DRUM HEATER
P1
UNR 18V
HEAT SW
J2
DM STP
UNR 17V
UNR 8V
UNR 45V
POWER PCB V1047C5034(-E)
R9 4.7k
R10 7.5k
R8 4.7k
C8 10/25(M)
POSITION DETECTOR
AMP
Vcc
Rf
Lc
La
Lb
IC1 TA7245F
C1 0.0012 (M)
C2 0.0012 (M)
C3 0.0012 (M)
R1 3.3k
R2 3.3k
R3 3.3k
R4 3.3k
R5 3.3k
R6 3.3k
HD3 0H009 (B,C,D)
HD2 0H009 (B,C,D)
HD1 0H002 (HQ,HR)
C6 0.22(Z)
C9 10/25(M)
L1
L2
L3
L4
L5
L6
C10 10/25(M)
R21 1/2W 1.6
R11 4.7k
R22 1k
C7 0.0056(M)
R13 300k
R14
R20 1k
IC2 2/2
C5 0.0012 (M)
R12 4.7k
R17 300k
R15 10k
HO1
R16 10k
IC2 1/2
C11 10/16 (M)
TR1
R18 470k
IC2 NJM4558M
R19 300k
TR1 : 2SC2712
MOTOR PCB M3223C5010

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

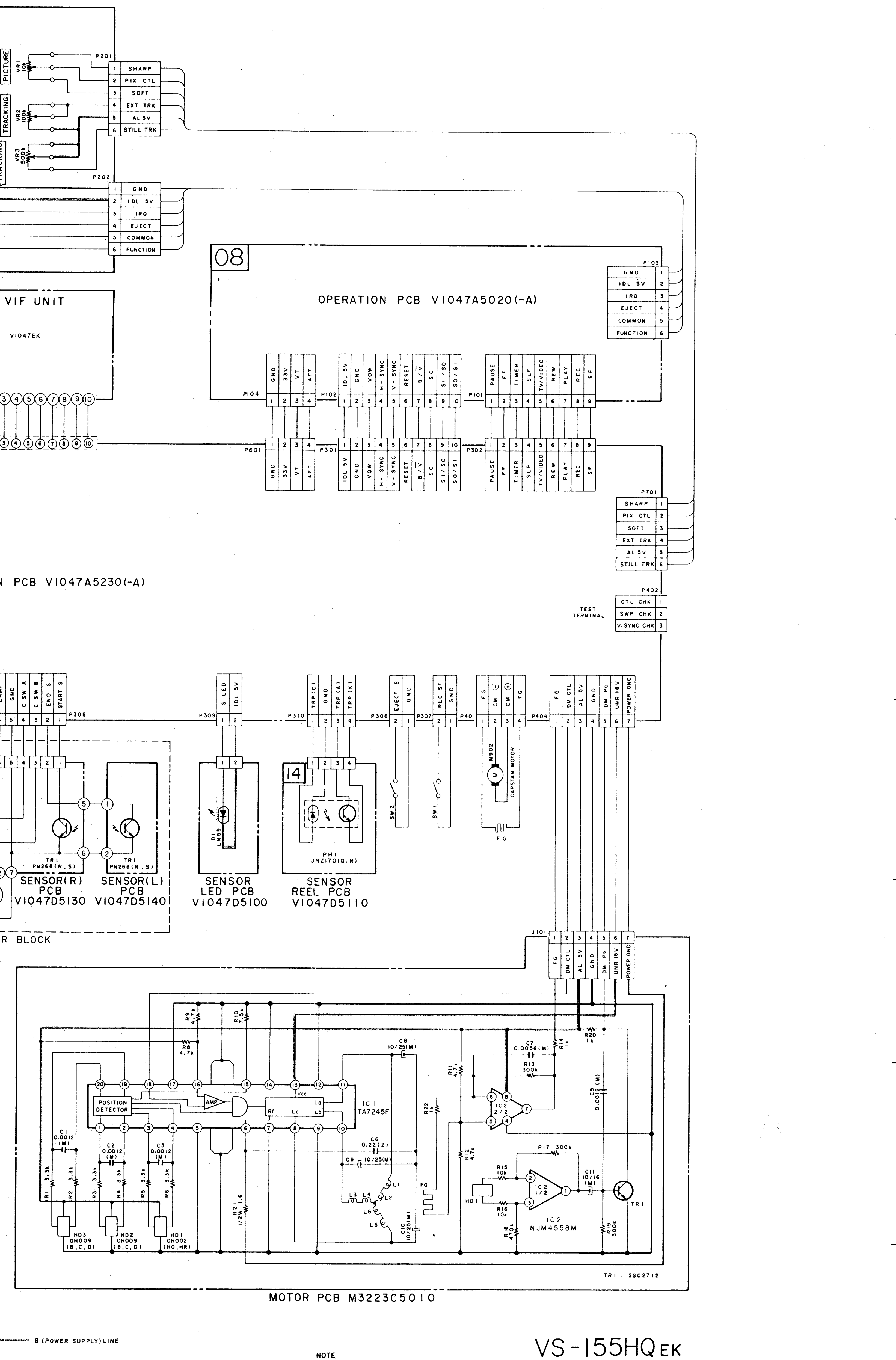
AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

B (POWER SUPPLY) LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μF 50WV(J)
POWER TRANSFORMER IS DIFFERENT
ACCORDING TO AREA

VS-155HQ EK
CONNECTION DIA
NO.5-1 86

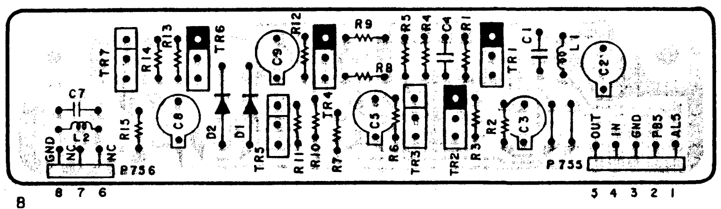
E F G H I J


G
H
I
J
K
1
2
3
4
5
6
7
8
PICTURE
TRACKING
VR1 10k
VR2 100k
VR3 500k
P201
SHARP
PIX CTL
SOFT
EXT TRK
AL 5V
STILL TRK
P202
GND
IDL 5V
IRQ
EJECT
COMMON
FUNCTION
08
OPERATION PCB V1047A5020(-A)
P103
VIF UNIT
V1047EK
P104
P102
P101
P601
P301
P302
GND
33V
VT
AFT
IDL 5V
VDW
H-SYNC
V-SYNC
RESET
B/V
SC
S1/S0
S0/S1
PAUSE
FF
TIMER
SLP
TV/VIDEO
REW
PLAY
REC
SP
P701
N PCB V1047A5230(-A)
P402
TEST TERMINAL
CTL CHK
SWP CHK
V.SYNC CHK
C SW A
C SW B
END S
START S
P308
P309
S LED
P310
TRP(C)
TRP(A)
TRP(K)
P306
EJECT S
P307
REC SF
P401
FG
CM
P404
DM CTL
DM PG
UNR 18V
POWER GND
TR1 PN268(R,S)
SENSOR(R) PCB V1047D5130
SENSOR(L) PCB V1047D5140
R BLOCK
D1 LN59
SENSOR LED PCB V1047D5100
14
PH1 ON2170(Q,R)
SENSOR REEL PCB V1047D5110
SW2
SW1
M902
CAPSTAN MOTOR
J101
R9 4.7k
R10 7.5k
R8 4.7k
C8 10/25(M)
C7 0.0056(M)
R14 1k
R20 1k
R13 300k
R11 4.7k
C5 0.0012(M)
POSITION DETECTOR
AMP
Vcc
IC1 TA7245F
IC2 2/2
R22 1k
C1 0.0012(M)
C2 0.0012(M)
C3 0.0012(M)
C6 0.22(Z)
C9 10/25(M)
R12 4.7k
R17 300k
R15 10k
C11 10/16(M)
IC2 1/2
HO1
R16 10k
TR1
R1 3.3k
R2 3.3k
R3 3.3k
R4 3.3k
R5 3.3k
R6 3.3k
R21 1.6 1/2W
L1
L2
L3
L4
L5
L6
C10 10/25(M)
R18 470k
IC2 NJM4558M
R19 300k
HD3 OH009 (B,C,D)
HD2 OH009 (B,C,D)
HD1 OH002 (HQ,HR)
TR1 : 2SC2712
MOTOR PCB M3223C5010
B (POWER SUPPLY) LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μF 50WV(J)
POWER TRANSFORMER IS DIFFERENT
ACCORDING TO AREA

VS-155HQ EK
CONNECTION DIAGRAM

NO.5-1 860910A (A1) 3

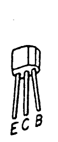

TR7
R14
R13
TR6
C9
R12
R9
R8
R5
R4
C4
R1
TR1
C1
L1
C2
C7
L2
R15
C8
D2
D1
TR5
R11
R10
R7
TR4
C5
R6
TR3
TR2
R3
R2
C3
GND
NC
NC
P756
8 7 6
OUT
IN
GND
PBS
ALS
P755
5 4 3 2 1

HQ PCB V1047D5200

B ▣ =PNP TRANSISTOR

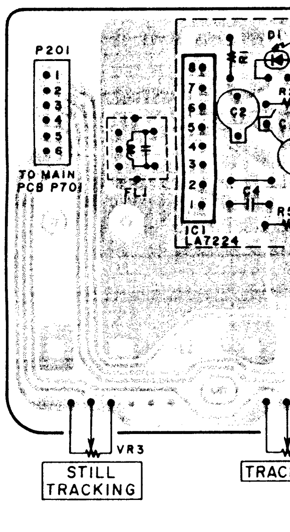
B ☐ =NPN TRANSISTOR

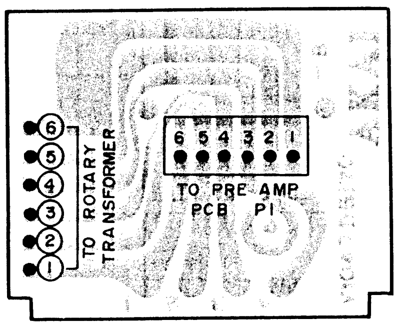
TR1,2,4,6 ---2SA1115
TR3,5,7 ----2SC2603



2SA1115
2SC2603

FUNCTION PCB V1047B5C


P201
1
2
3
4
5
6
TO MAIN PCB P70
FL1
8
7
6
5
4
3
2
1
IC1
LA7224
D1
C2
C4
VR3
STILL TRACKING
TRAC

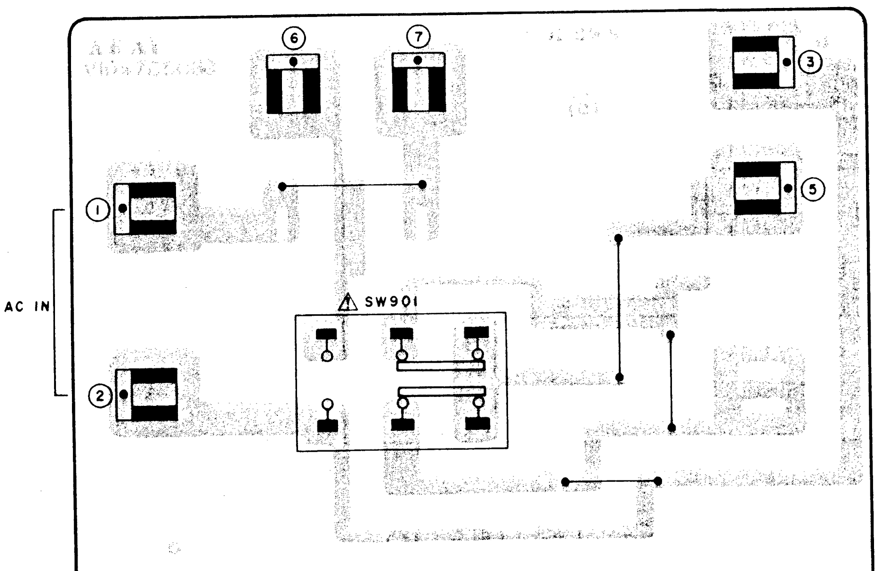

⑥
⑤
④
③
②
①
TO ROTARY TRANSFORMER
6 5 4 3 2 1
TO PRE AMP PCB P1
AKAI

HEAD SUB PCB
V1047D5170(-B)

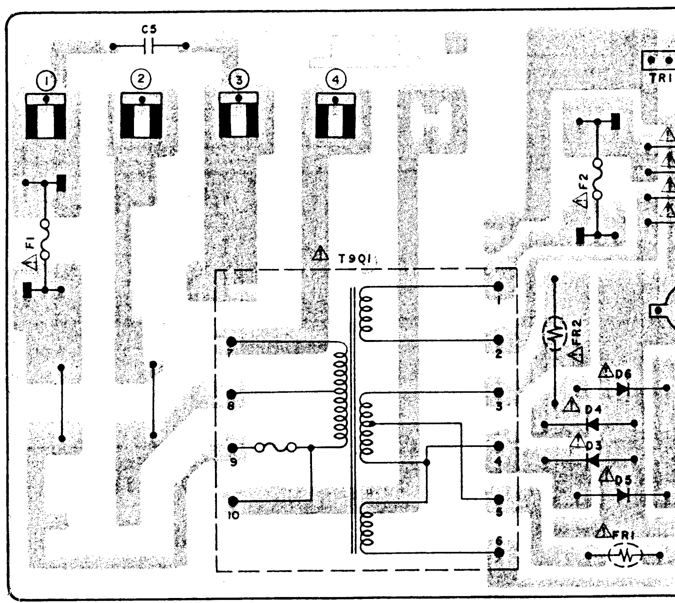
WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS
REPLACE SAFETY CRITICAL COMPONENTS ON
RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITI
POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE
NE REMPLACER QUE DES PIÈCES RECOMMAN

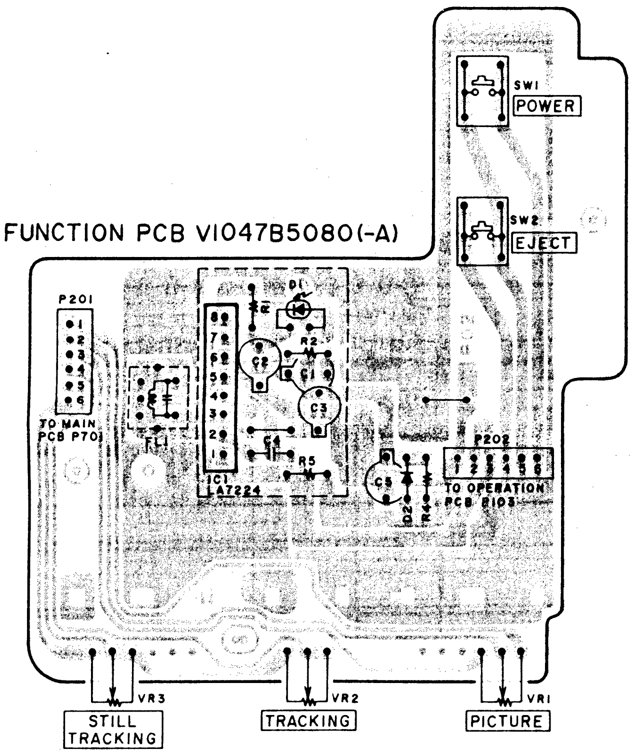
Supple

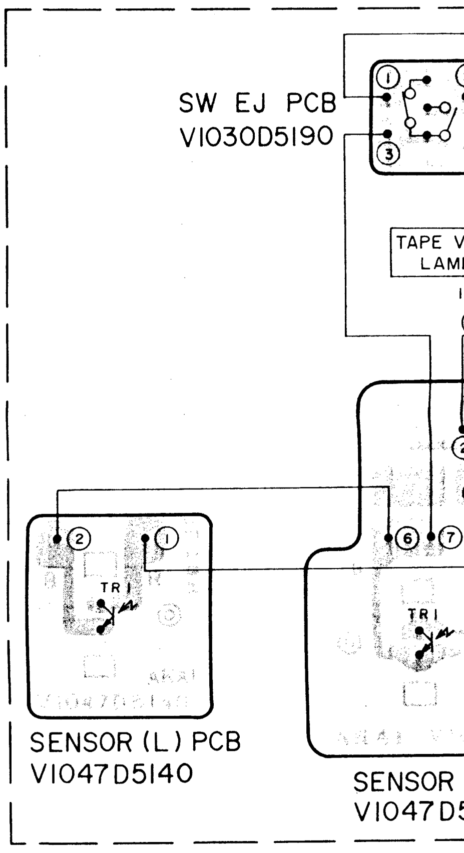

AKAI
⑥
⑦
③
①
⑤
AC IN
⚠ SW901
②

EVM PCB V1047C5060 EK


C5
①
②
③
④
TR1
⚠F2
⚠F1
⚠ T901
1
2
3
4
5
6
7
8
9
10
⚠FR2
⚠D6
⚠D4
⚠D3
⚠D5
⚠FR1

POWER PCB V1047C5034(-E) EK

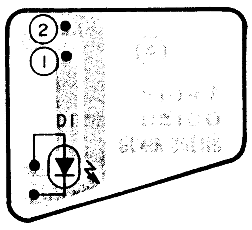

FUNCTION PCB V1047B5080(-A)
SW1
POWER
SW2
EJECT
P201
TO MAIN PCB P701
FL1
IC1
LA7224
D1
R1
R2
C2
C1
C3
C4
R5
C5
D2
R4
P202
TO OPERATION PCB P103
VR3
STILL TRACKING
VR2
TRACKING
VR1
PICTURE


SW EJ PCB
V1030D5190
TAPE V
LAMP
TR1
TR1
SENSOR (L) PCB
V1047D5140
SENSOR
V1047D5

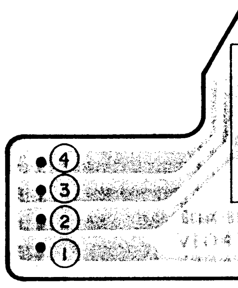
EJECTOR BLOCK

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

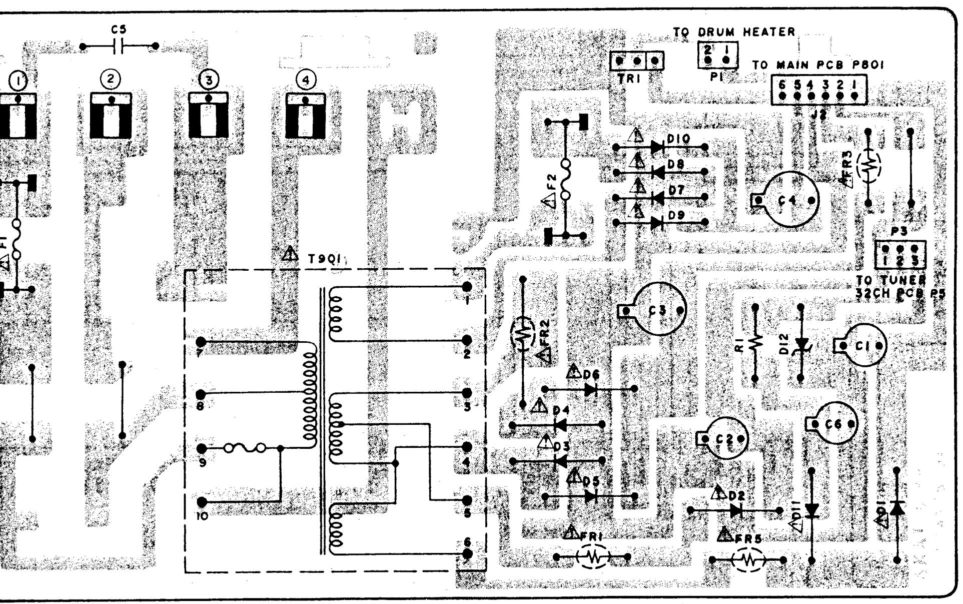
AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT



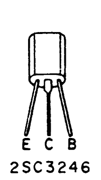
SENSOR LED PCB
V1047D5100



SENSOR REEL
V1047D5110

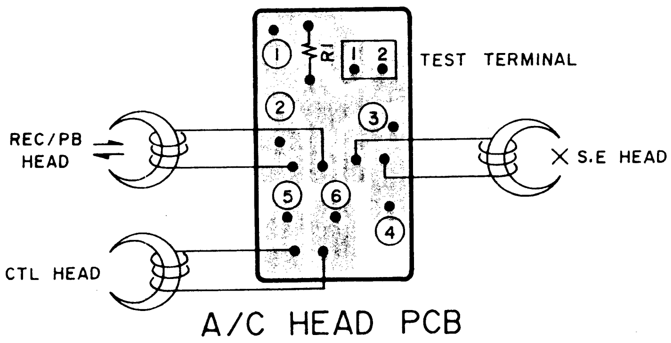

C5
①
②
③
④
TO DRUM HEATER
TR1
P1
TO MAIN PCB P801
6 5 4 3 2 1
F2
D10
D8
D7
D9
C4
FR3
P3
TO TUNER 32CH PCB P5
T901
F3
FR2
D6
D4
D3
D5
R1
D12
C1
C2
C6
D2
D11
D1
FR1
FR5

POWER PCB V1047C5034(-E) EK

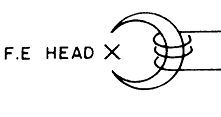


2SC3246

[• • •] = NPN TRANSISTOR

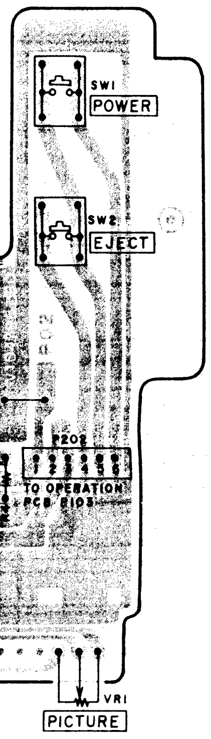

R1
TEST TERMINAL
1 2
①
②
③
④
⑤
⑥
REC/PB HEAD
S.E HEAD
CTL HEAD

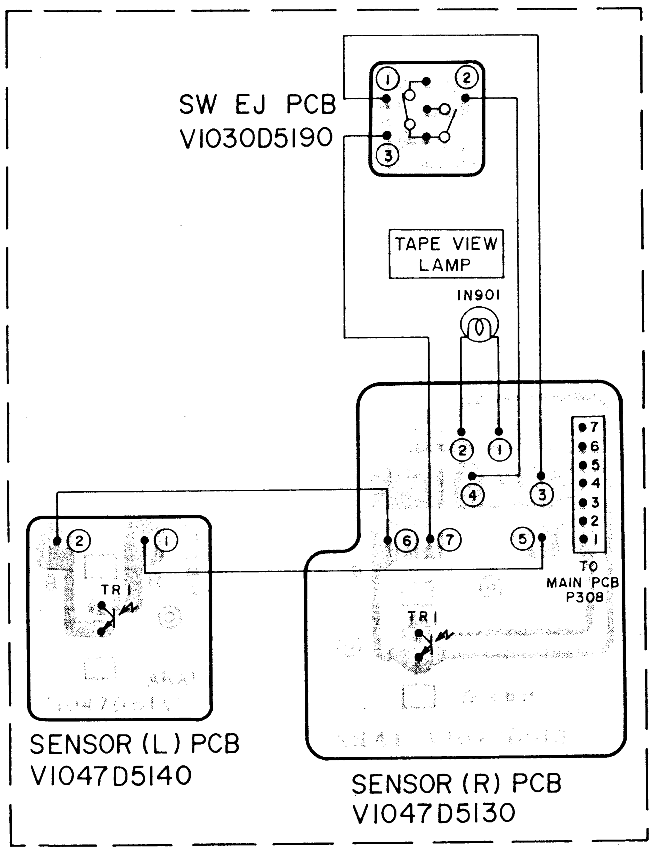
A/C HEAD PCB
V1047D5150



F.E
V1C

Suppl

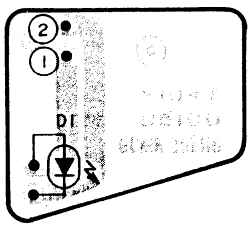

SW1
POWER
SW2
EJECT
P202
TO OPERATION PCB P103
VR1
PICTURE


SW EJ PCB
V1030D5190
TAPE VIEW LAMP
IN901
TO MAIN PCB P308
TR1
TR1
SENSOR (L) PCB
V1047D5140
SENSOR (R) PCB
V1047D5130

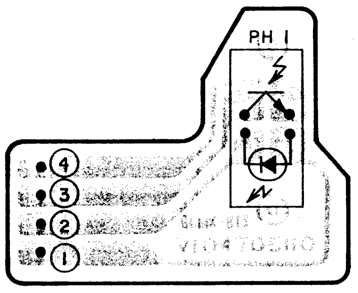
EJECTOR BLOCK

TINUED SAFETY,
ANUFACTURER'S

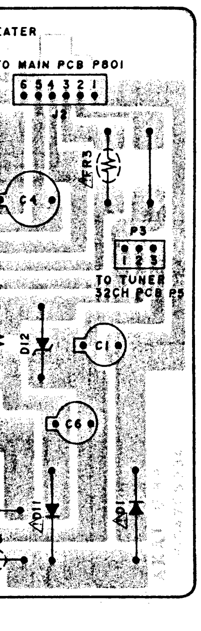
ÉCURITÉ.
L,
LE FABRICANT

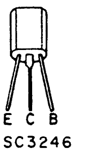


SENSOR LED PCB
V1047D5100



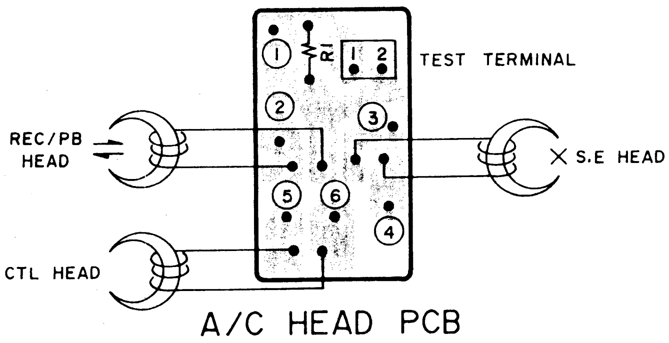
SENSOR REEL PCB
V1047D5110


EATER
TO MAIN PCB P801
P3
TO TUNER 32CH PCB P5
D12
C1
C4
C6

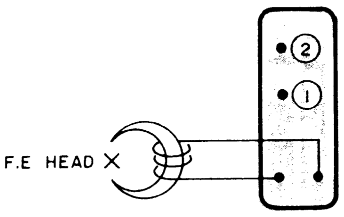


2SC3246

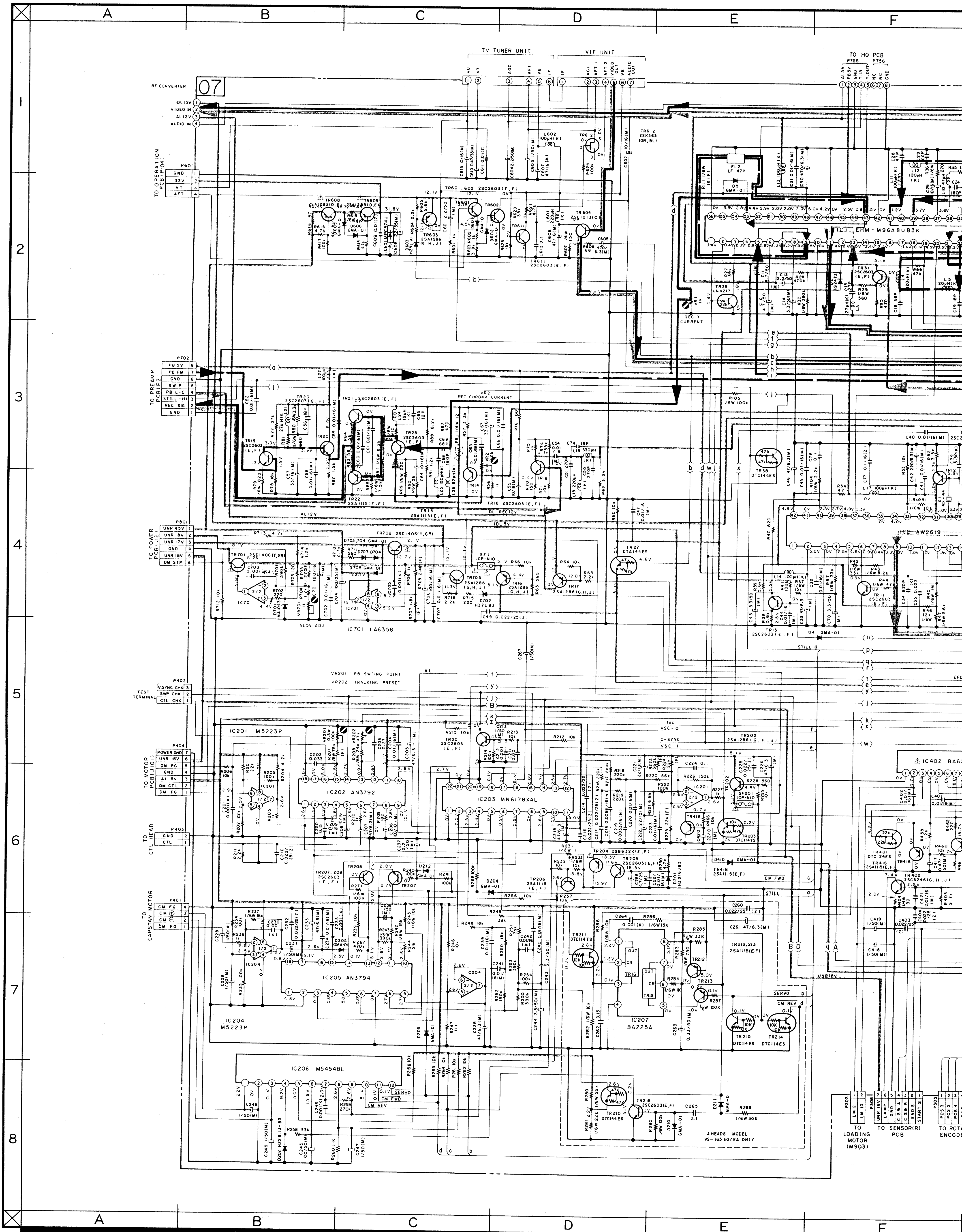
[•|•|•] = NPN TRANSISTOR

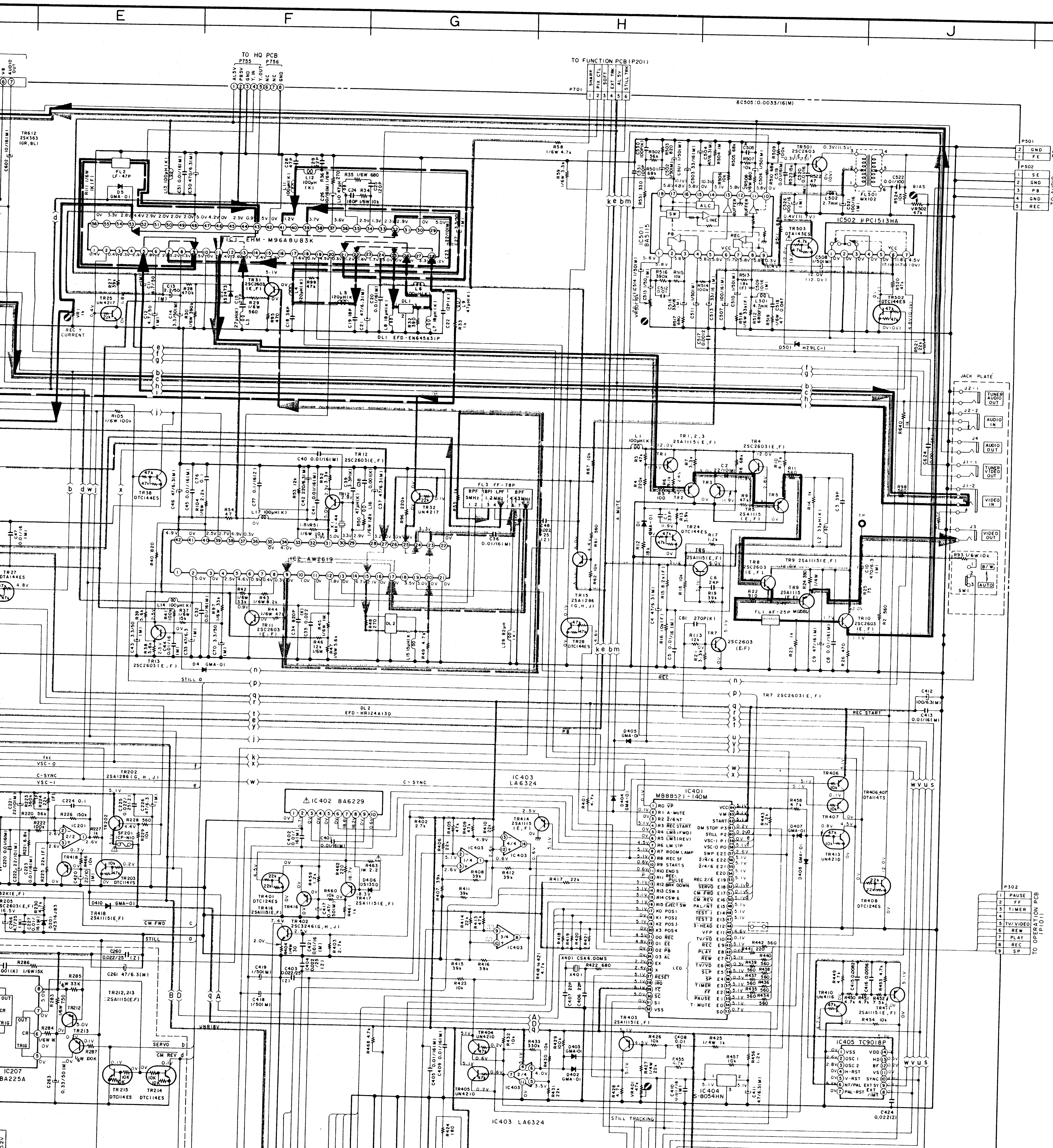

R1
TEST TERMINAL
REC/PB HEAD
S.E HEAD
CTL HEAD

A/C HEAD PCB
V1047D5150



F.E HEAD PCB
V1047D5160


A
B
C
D
E
F
1
2
3
4
5
6
7
8
TV TUNER UNIT
VIF UNIT
TO HQ PCB
P755
P756
RF CONVERTER
07
IDL 12V
VIDEO IN
AL 12V
AUDIO IN
TO OPERATION PCB(P604)
P601
GND
33V
VT
AFT
TR601,602 2SC2603(E,F)
TR612 2SK363 (GR,BL)
TR604 2SC2121(C)
TR603 2SA1286 (G,H,J)
TR611 2SC2603(E,F)
IC1 EHM-M96A8U83K
TR25 UN4217
REC Y CURRENT
TR31 2SC2603 (E,F)
TO PREAMP PCB(P2)
P702
PB 5V
PB FM
GND
SWP
PB L-C
STILL-HI
REC SIG
GND
VR2
REC CHROMA CURRENT
TR19 2SC2603 (E,F)
TR20 2SC2603(E,F)
TR21 2SC2603(E,F)
TR22 2SA1115(E,F)
TR23 2SC2603 (E,F)
TR14 2SA1115(E,F)
TR18 2SC2603(E,F)
TR38 DTC144ES
AL12V
DL REC12V
IOL 5V
TO POWER PCB(J2)
P801
UNR 45V
UNR 8V
UNR 17V
GND
UNR 18V
DM STP
TR701 2SD1406(Y,GR)
TR702 2SD1406(Y,GR)
D703,704 GMA-01
IC701
AL5V ADJ
IC701 LA6358
TR703 2SA1286 (G,H,J)
TR16 2SA1286 (G,H,J)
TR17 2SA1286(G,H,J)
SF1 ICP-N10
D702 HZ7L83
TR27 DTA144ES
IC2 AW2619
TR11 2SC2603 (E,F)
TR13 2SC2603(E,F)
D4 GMA-01
STILL
VR201 PB SW'ING POINT
VR202 TRACKING PRESET
TEST TERMINAL
P402
V.SYNC CHK
SWP CHK
CTL CHK
TO MOTOR PCB(J101)
P404
POWER GND
UNR 18V
DM PG
GND
AL 5V
DM CTL
DM FG
IC201 M5223P
IC202 AN3792
IC203 MN6178XAL
TR201 2SC2603 (E,F)
TR202 2SA1286(G,H,J)
SF201 ICP-N10
TR418
TR203 DTC114YS
TO CTL HEAD
P403
GND
CTL
TR207,208 2SC2603 (E,F)
TR204 2SB632K(E,F)
TR205 2SC2603(E,F)
TR206 2SA1115
D410 GMA-01
TR418 2SA1115(E,F)
CM FWD
STILL
TO CAPSTAN MOTOR
P401
CM FG
CM ⊕
CM ⊖
CM FG
IC204
IC205 AN3794
IC204 M5223P
TR211 DTC114TS
IC207 BA225A
TR212,213 2SA1115(E,F)
TR215 DTC114ES
TR214 DTC114ES
SERVO
CM REV
UNR18V
IC206 M54548L
TR210 DTC144ES
TR216 2SC2603(E,F)
3HEADS MODEL VS-165 EO/EA ONLY
D202 HZS9.1J-B3
⚠IC402 BA6
TR401 DTC124ES
TR416 2SA1115(E,F)
TR402 2SC3246(G,H,J)
P303
LM 2
LM 10
P308
UNR 18V
LAMP
GND
C SW A
C SW B
END S
START S
P305
POS 3
POS 2
POS 1
TO LOADING MOTOR (M903)
TO SENSOR(R) PCB
TO ROTA
ENCODE


E
F
G
H
I
J
TO HQ PCB
P755
P756
TO FUNCTION PCB (P201)
P701
SHARP
PIX CTL
SOFT
EXT TRK
ALSV
STILL TRK
C505 0.0033/16(M)
IC1 EHM-M96A8U83K
FL2 LF-47P
DL1 EFD-EN645A31P
IC501 BA5115
IC502 μPC1513HA
TR501 2SC2603
TR502 DTC144ES
TR503 DTA143ES
FL301 MX102
BIAS
P501
P502
GND
FE
SE
PB
REC
D501 HZ9LC-1
JACK PLATE
J2-1 TUNER AUDIO OUT
J2-2 AUDIO IN
J4 AUDIO OUT
J1-1 TUNER VIDEO OUT
J1-2 VIDEO IN
J3 VIDEO OUT
B/W
AUTO
SW1
IC2 AW2619
FL3 FF-78P
BPF
LPF
5MHz
1.2MHz
4.43MHz
TR1,2,3 2SA1115(E,F)
TR4 2SC2603(E,F)
TR5 2SA1115
TR6 2SA1115(E,F)
TR7 2SC2603 (E,F)
TR8 2SC2603
TR9 2SA1115(E,F)
TR10 2SC2603 (E,F)
TR11 2SC2603 (E,F)
TR12 2SC2603(E,F)
TR13 2SC2603 (E,F)
TR15 2SA1286 (G,H,J)
TR24 DTC144ES
TR25 UN4217
TR27 DTA144ES
TR28 DTC144ES
TR31 2SC2603 (E,F)
TR32 UN4217
TR38 DTC144ES
FL1 AF-25P
DL2 EFD-HR124A130
REC Y CURRENT
MUTE
STILL
REC
PB
REC START
C-SYNC
VSC-0
VSC-1
fsc
IC402 BA6229
IC403 LA6324
IC401 MB88521-140M
IC404 S-8054HN
IC405 TC9018P
IC201
IC207 BA225A
TR202 2SA1286(G,H,J)
TR203 DTC114ES
TR212,213 2SA1115(E,F)
TR214 DTC114ES
TR215 DTC114ES
TR216 2SC2603(E,F)
TR401 DTC124ES
TR402 2SC3246(G,H,J)
TR403 2SA1115(E,F)
TR404 UN4210
TR405 UN4210
TR406,407 DTA114TS
TR408 DTC124ES
TR410 UN4116
TR411 2SA1115(E,F)
TR413 UN4210
TR414 2SA1115 (E,F)
TR416 2SA1115(E,F)
TR417 2SA1115(E,F)
TR418 2SA1115(E,F)
X401 CSA6.00MS
CM FWD
CM REV
SERVO
UNR18V
STILL TRACKING
P302
PAUSE
FF
TIMER
TV/VIDEO
REW
PLAY
SP
TO OPERATION PCB (P101)
3HEADS MODEL VS-165 EO/EA ONLY
P303
P308
P305
P307
P306
P310
P309
P301
TO LOADING MOTOR (M903)
TO SENSOR(R) PCB
TO ROTARY ENCODER
TO REC SAFTY SW
TO EJECT SW
TO SENSOR REEL(A) PCB
TO SENSOR LED PCB
TO OPERATION PCB (P201)
MAIN (PAL)
V1047A5230(-A)

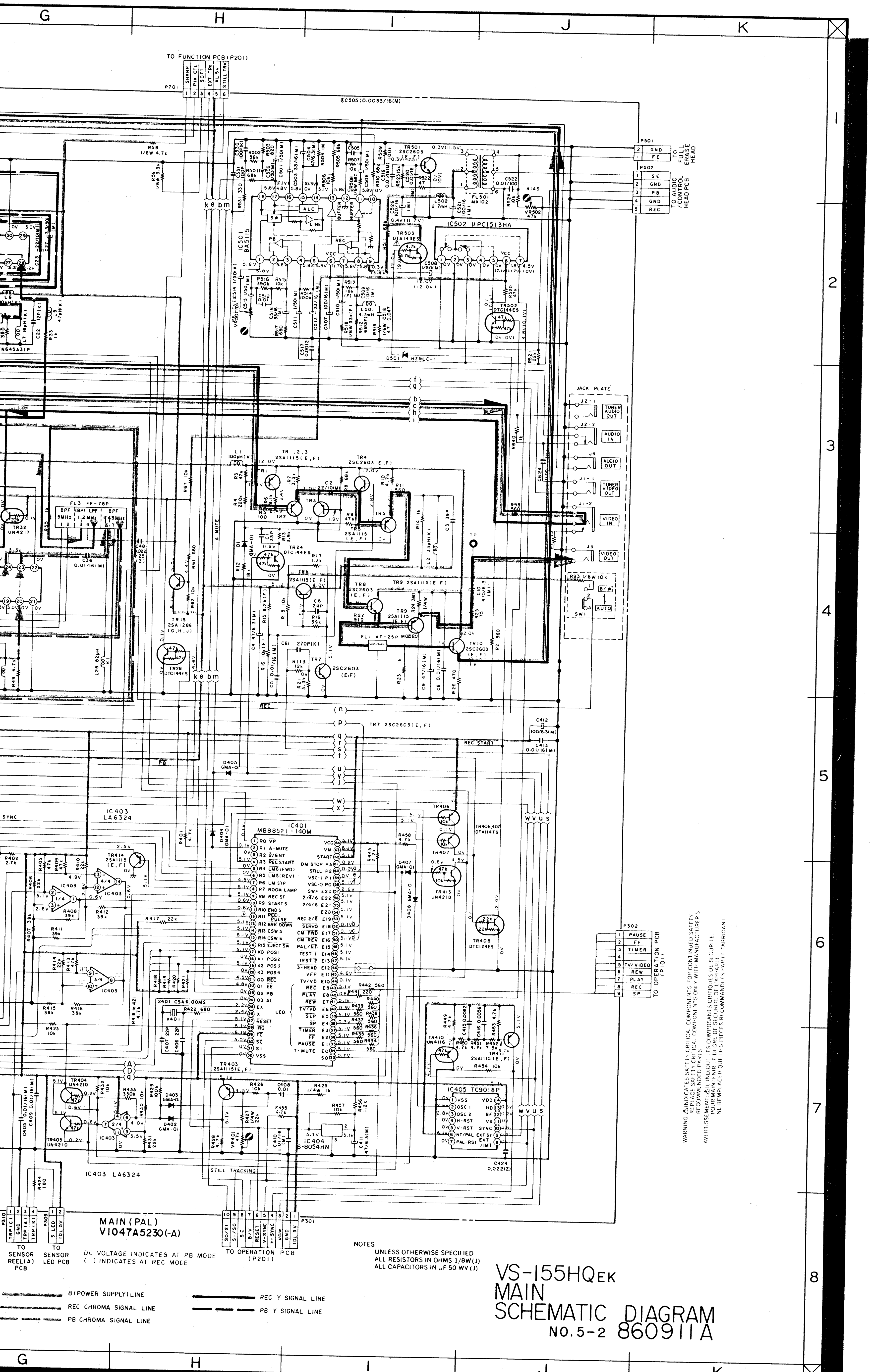
DC VOLTAGE INDICATES AT PB MODE
( ) INDICATES AT REC MODE

NOTES
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W(J)
ALL CAPACITORS IN μF 50 WV(J)

B(POWER SUPPLY) LINE
REC CHROMA SIGNAL LINE
PB CHROMA SIGNAL LINE
REC Y SIGNAL LINE
PB Y SIGNAL LINE

VS-155HQEK
MAIN
SCHEMATIC DIAG

NO.5-2 8609


TO FUNCTION PCB (P201)
SHARP
PIX CTL
SOFT
EXT TRK
AL 5V
STILL TRK
P701
※C505:0.0033/16(M)
P501
GND
FE
TO FULL ERASE HEAD
P502
SE
GND
PB
GND
REC
TO AUDIO/CONTROL HEAD PCB
IC501 BA5115
IC502 μPC1513HA
TR501 2SC2603
TR502 DTC144ES
TR503 DTA143ES
FL501 MX102
BIAS
VR502 47k
D501 HZ9LC-1
JACK PLATE
J2-1
TUNER AUDIO OUT
J2-2
AUDIO IN
J4
AUDIO OUT
J1-1
TUNER VIDEO OUT
J1-2
VIDEO IN
J3
VIDEO OUT
SW1
B/W
AUTO
TR1,2,3 2SA1115(E,F)
TR4 2SC2603(E,F)
TR5 2SA1115(E,F)
TR6
TR7 2SC2603(E,F)
TR8 2SC2603(E,F)
TR9 2SA1115(E,F)
TR10 2SC2603(E,F)
TR24 DTC144ES
TR15 2SA1286(G,H,J)
TR28 DTC144ES
TR32 UN4217
FL1 AF-25P MODEL
FL3 FF-78P
BPF 5MHz
(BP) LPF 1.2MHz
BPF 4.43MHz
TP
REC
A MUTE
TR7 2SC2603(E,F)
REC START
PB
IC403 LA6324
IC401 MB88521-140M
X401 CSA6.00MS
TR403 2SA1115(E,F)
TR404 UN4210
TR405 UN4210
TR406
TR407
TR406,407 DTA114TS
TR408 DTC124ES
TR410 UN4116
TR411 2SA1115(E,F)
TR414 2SA1115(E,F)
IC404 S-8054HN
IC405 TC9018P
STILL TRACKING
P302
PAUSE
FF
TIMER
TV/VIDEO
REW
PLAY
REC
SP
TO OPERATION PCB (P101)
P310
TRP(C)
GND
TRP(A)
TRP(K)
P309
S LED
IDL 5V
TO SENSOR REEL(A) PCB
TO SENSOR LED PCB
P301
SO/SI
SI/SO
SC
B/V
RESET
V-SYNC
H-SYNC
VOW
GND
IDL 5V
TO OPERATION PCB (P201)
MAIN (PAL)
V1047A5230(-A)
B (POWER SUPPLY) LINE
REC CHROMA SIGNAL LINE
PB CHROMA SIGNAL LINE
REC Y SIGNAL LINE
PB Y SIGNAL LINE
G
H
I
J
K
1
2
3
4
5
6
7
8

DC VOLTAGE INDICATES AT PB MODE
( ) INDICATES AT REC MODE

NOTES
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/8W(J)
ALL CAPACITORS IN μF 50 WV(J)

WARNING. ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

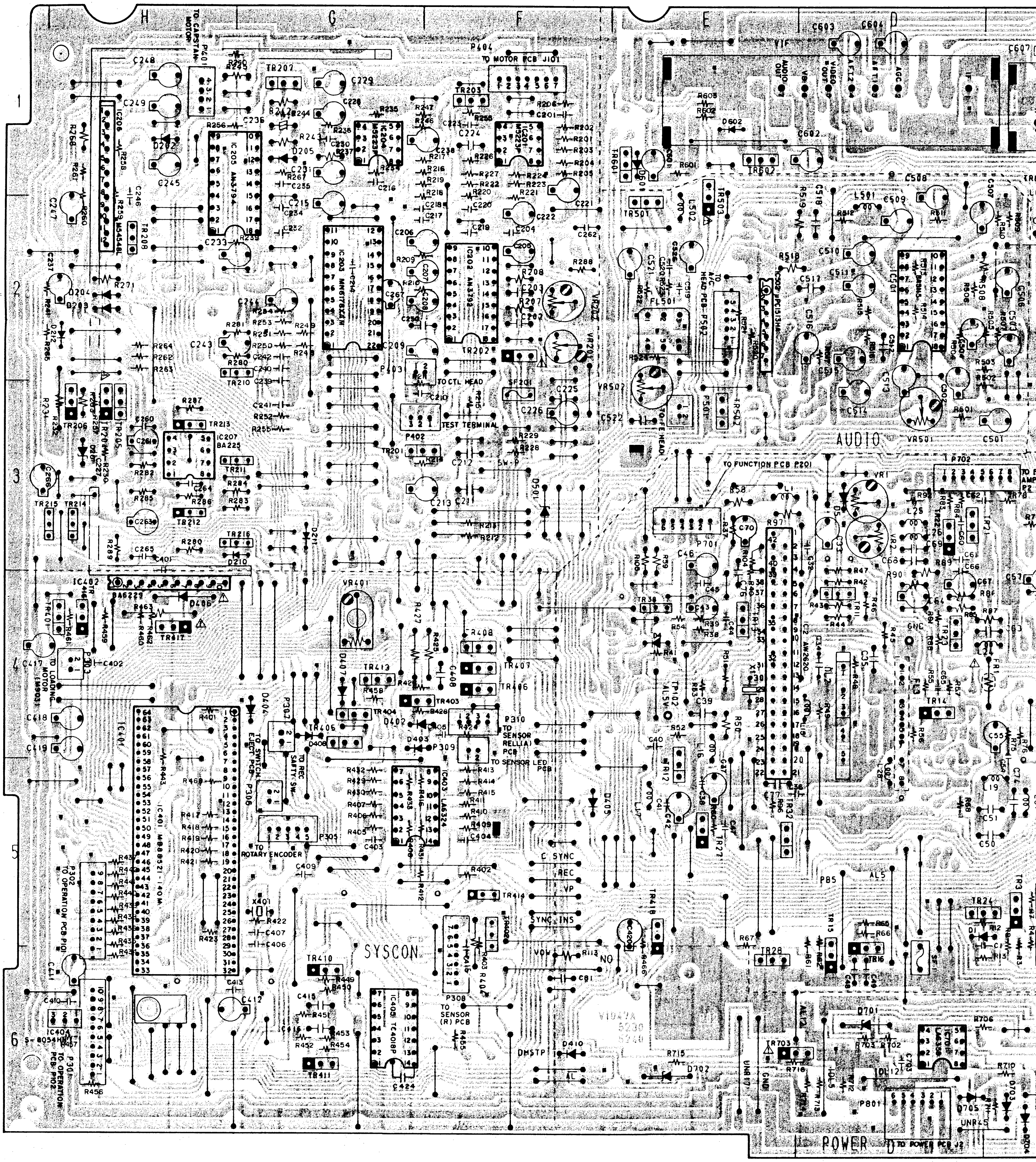
AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SECURITE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER QUE DES PIECES RECOMMANDEES PAR LE FABRICANT.

VS-155HQEK
MAIN
SCHEMATIC DIAGRAM

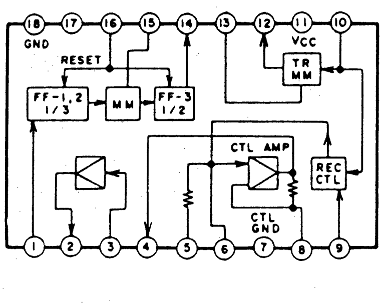
NO.5-2 860911A

ALL THE CHIP PART'S CONNECTED ON THE PA
ARE INDICATED WITH —⁄\/\— —||— MARKS

MAIN PCB V1047A5230(-A)

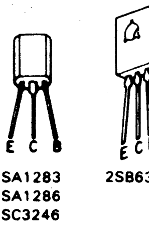

H
G
F
E
D
1
2
3
4
5
6
TO CAPSTAN MOTOR
P601
P404
TO MOTOR PCB J101
VIF
AUDIO OUT
VIDEO OUT
IC205 AN3794
IC203 MN6178XAL
IC208 AN3792
IC207 BA225
IC402 BA6229
IC401 MB88521-140M
IC403 LA6324
IC405 TC4018BP
IC404
IC2 AN2620
IC501
TO CTL HEAD
TEST TERMINAL
TO FE HEAD
TO HEAD PCB P502
TO FUNCTION PCB P201
TO LOADING MOTOR M903
TO OPERATION PCB P101
TO OPERATION PCB P102
TO SWITCH EJECT PCB
TO REC SAFETY SW
TO ROTARY ENCODER
TO SENSOR RELLI(A) PCB
TO SENSOR LED PCB
TO SENSOR (R) PCB
TO POWER PCB J2
VR401
X401
X1
C SYNC
REC
VP
SYNC INS
VOY
NO
DMSTP
SYSCON
AUDIO
VR501
VR502
P702
POWER
UNR45
P801
PB5
AL5
GND
V1047A 5230

AN3792 (DRUM SERVO INTERFACE IC)

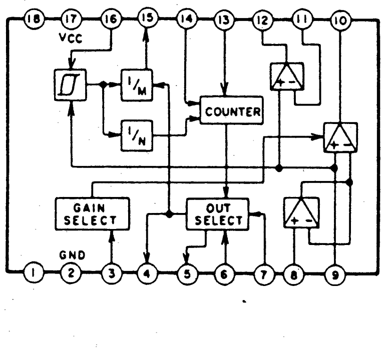

GND
VCC
RESET
FF-1, 2 1/3
MM
FF-3 1/2
TR MM
CTL AMP
REC CTL
CTL GND
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

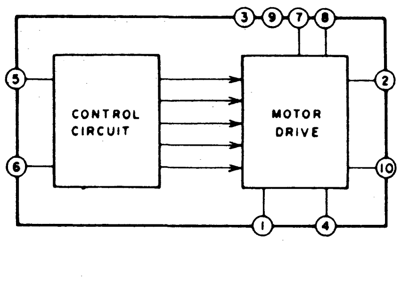
AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT


E C B
E C
2SA1283
2SA1286
2SC3246
2SB63

AN3794 (CAPSTAN SERVO INTERFACE IC)


VCC
1/M
1/N
COUNTER
GAIN SELECT
OUT SELECT
GND
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18

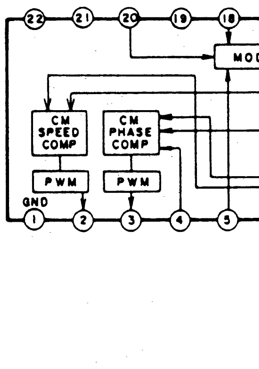
BA6229 (MOTOR DRIVER)


CONTROL CIRCUIT
MOTOR DRIVE
1
2
3
4
5
6
7
8
9
10

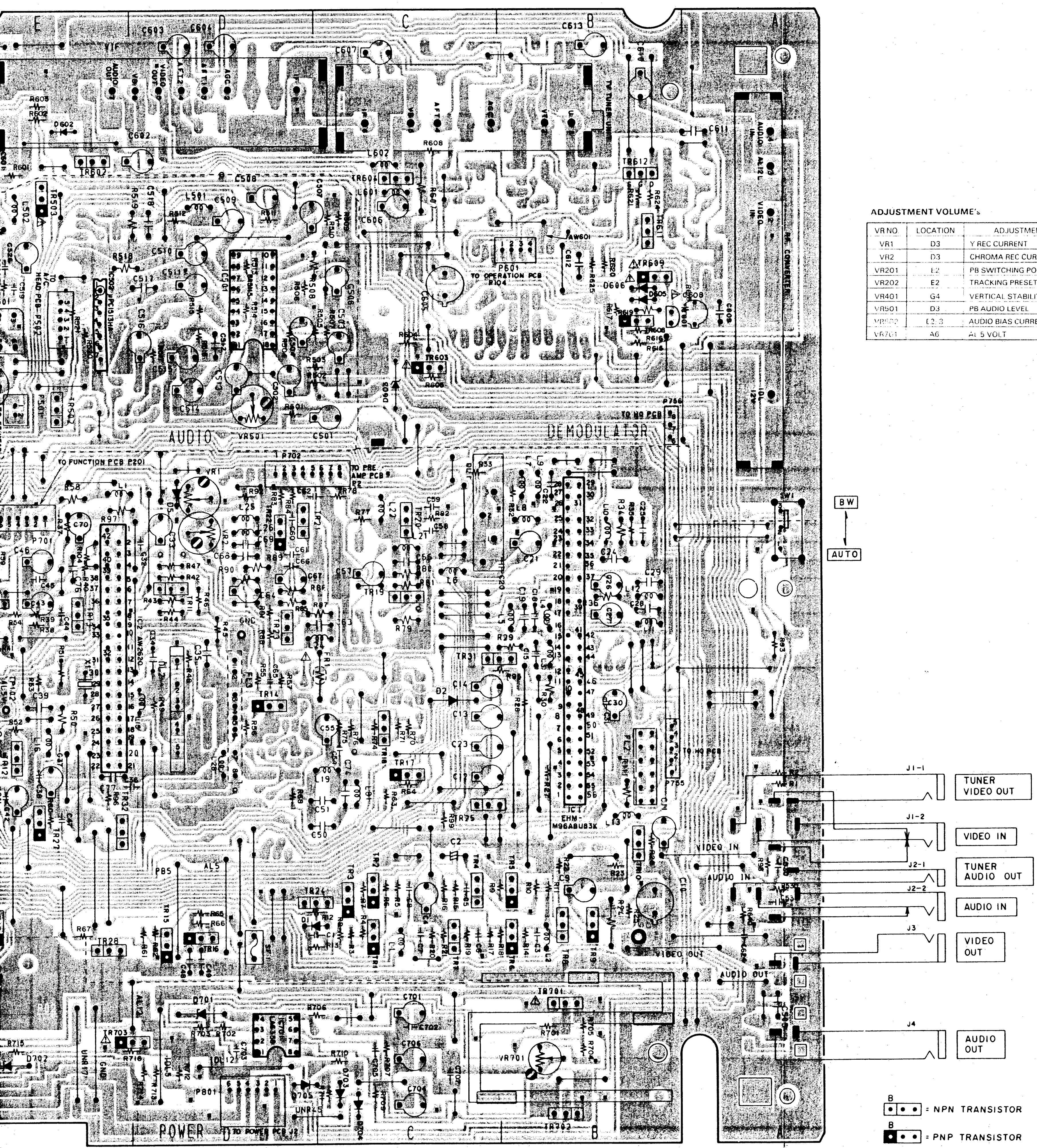
CONTROL MODE

MODE	INPUT		OUTPUT	
	5pin	6pin	2pin	10pin
STOP	L	L	OPEN	OPEN
NORMAL	H	L	H	L
REVERSE	L	H	L	H
BRAKE	H	H	L	L

MN6178XAL (DIGITAL SE


MO
CM SPEED COMP
CM PHASE COMP
PWM
PWM
GND
1
2
3
4
5
18
19
20
21
22

ALL THE CHIP PART'S CONNECTED ON THE PATTERN SIDE, THEY ARE INDICATED WITH —ᴧᴧ— —||— MARKS


AUDIO
DEMODULATOR
POWER
TO FUNCTION PCB P201
TO PRE AMP PCB P2
TO OPERATION PCB P104
TO HD PCB
TO POWER PCB J2
TV TUNER UNIT
RF CONVERTER
VIDEO IN
AUDIO IN
VIDEO OUT
AUDIO OUT
BW
AUTO
J1-1
TUNER VIDEO OUT
J1-2
VIDEO IN
J2-1
TUNER AUDIO OUT
J2-2
AUDIO IN
J3
VIDEO OUT
J4
AUDIO OUT
= NPN TRANSISTOR
= PNP TRANSISTOR

ADJUSTMENT VOLUME's

VR NO.	LOCATION	ADJUSTMENT ITEM
VR1	D3	Y REC CURRENT
VR2	D3	CHROMA REC CURRENT
VR201	E2	PB SWITCHING POINT
VR202	E2	TRACKING PRESET
VR401	G4	VERTICAL STABILITY
VR501	D3	PB AUDIO LEVEL
VR502	E2, 3	AUDIO BIAS CURRENT
VR701	A6	AL 5 VOLT

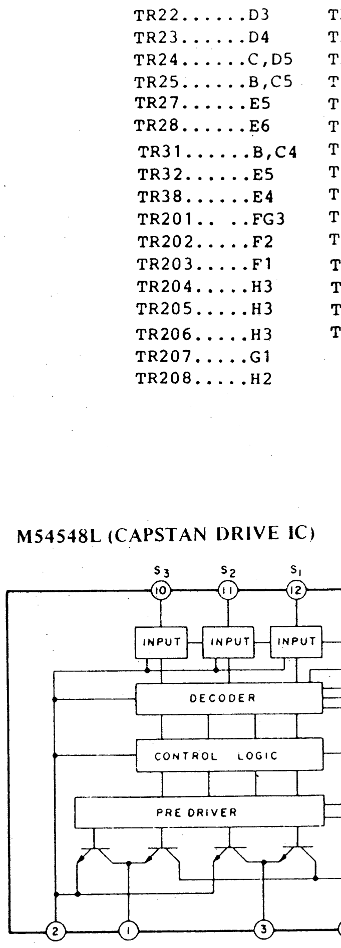
LOCATION OF CO

IC's	CON
IC1.......B4	P301
IC2.......E4	P302
IC201.....F1	P303
IC202.....F2	P305
IC203.....G2	P306
IC204.....G1	P307
IC205.....G,H1	P308
IC206.....H1	P309
IC207.....H3	P310
IC401.....H5	P401
IC402.....H4	P402
IC403.....G5	P403
IC404.....H6	P404
IC405.....G6	P501
IC501.....D2	P502
IC502.....E2	P601
IC601.....B2	P701
IC701.....D6	P702
	P755
	P756
	P801

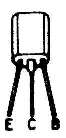
TRANSISTOR's

TR1.......C5,6
TR2.......C5
TR3.......C5
TR4.......C5
TR5.......B5
TR6.......B5,6
TR7.......C5,6
TR8.......B5
TR9.......B5
TR10......B5
TR11......D4
TR12......E4,5
TR13......E4
TR14......D4
TR15......D5,6
TR16 .....D5
TR17......C5
TR18......C4
TR19......C4
TR20......C3
TR21......D3
TR22......D3
TR23......D4
TR24......C,D5
TR25......B,C5
TR27......E5
TR28......E6
TR31......B,C4
TR32......E5
TR38......E4
TR201.. ..FG3
TR202.....F2
TR203.....F1
TR204.....H3
TR205.....H3
TR206.....H3
TR207.....G1
TR208.....H2

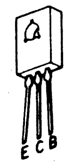
M54548L (CAPSTAN DRIVE IC)


S3
S2
S1
10
11
12
INPUT
INPUT
INPUT
DECODER
CONTROL LOGIC
PRE DRIVER
2
1
3
GND
O1
O2

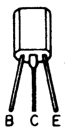
INPUT			OUTPUT	
S_1	S_2	S_3	$\bar{O}_1$	$\bar{O}_2$
L	L	L	"OFF" state	"OFF" state
L	L	H	H	L
L	H	L	L	H
L	H	H	H	L
H	L	L	L	H
H	L	H	H	L
H	H	L	L	H
H	H	H	L	L



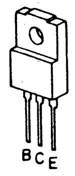
2SA1283
2SA1286
2SC3246



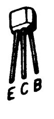
2SB632K



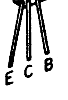
2SC1213C



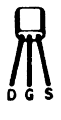
2SD1406



2SA1115
2SC2603
DTA114TS
DTA143ES
DTA144ES
DTC114ES
DTC114TS
DTC114YS
DTC124ES
DTC144ES



UN421D
UN4116
UN4210
UN4217



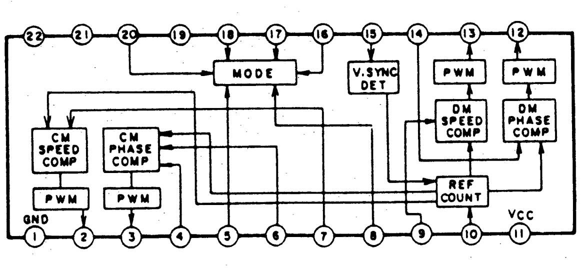
2SK363

ONTINUED SAFETY,
MANUFACTURER'S

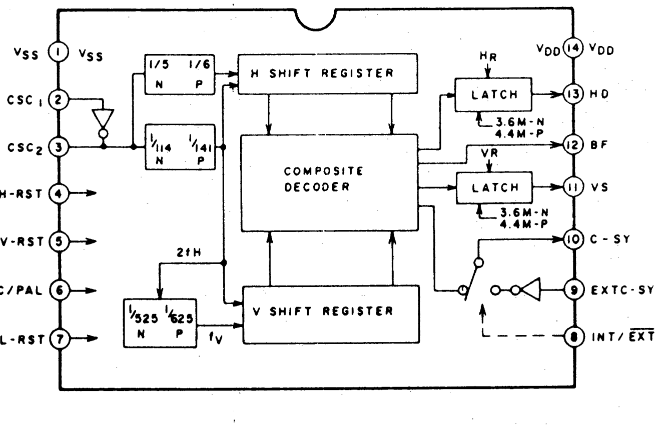
SÉCURITÉ.
REIL,
AR LE FABRICANT

PUT	OUTPUT	
.6pin	2pin	10pin
L	OPEN	OPEN
L	H	L
H	L	H
H	L	L

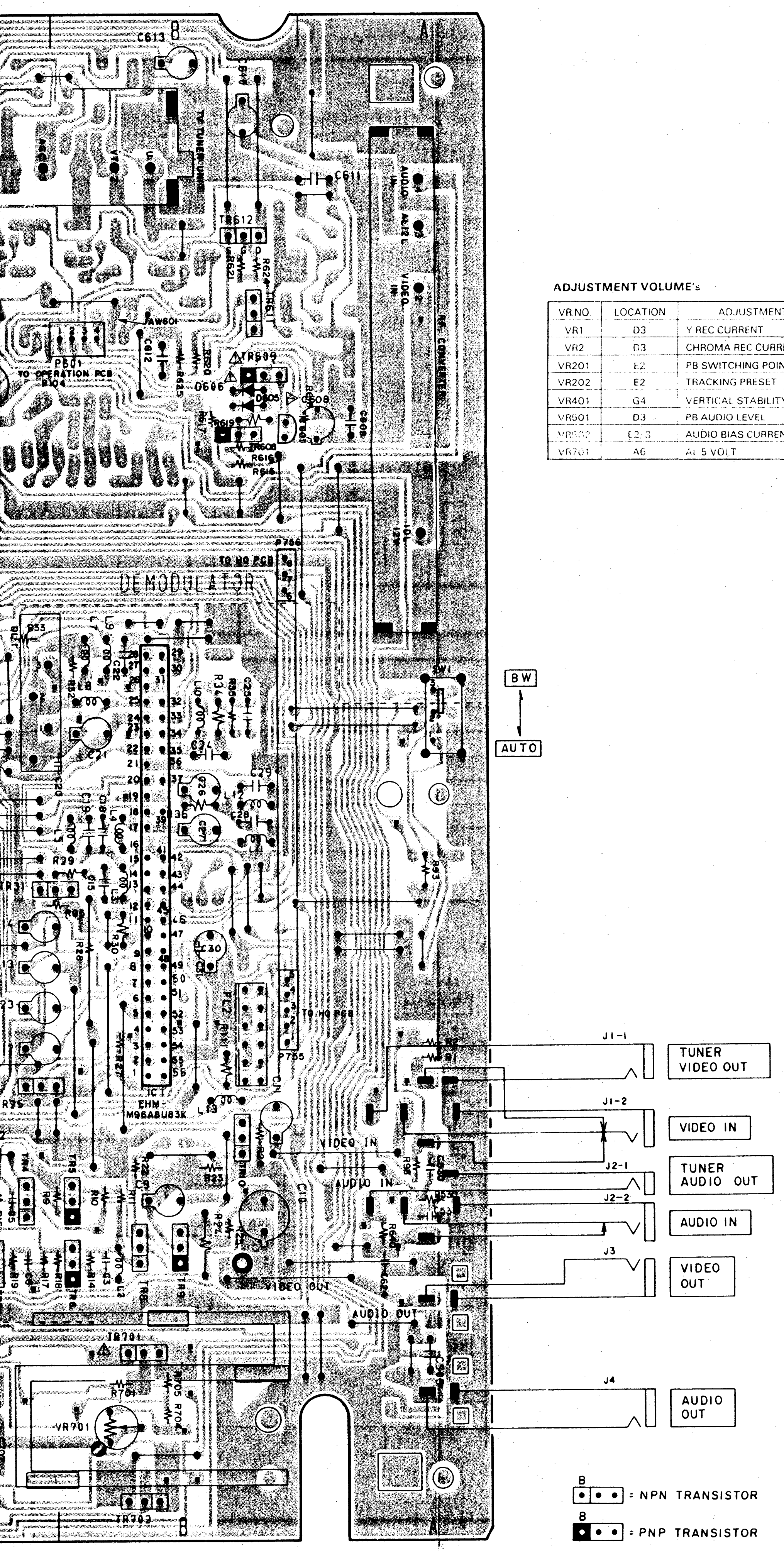
MN6178XAL (DIGITAL SERVO IC)


22
21
20
19
18
17
16
15
14
13
12
MODE
V.SYNC DET
PWM
PWM
DM SPEED COMP
DM PHASE COMP
CM SPEED COMP
CM PHASE COMP
PWM
PWM
REF COUNT
GND
VCC
1
2
3
4
5
6
7
8
9
10
11

TC9018P (TV SYNC GENERATOR)


VSS
VSS
CSC1
CSC2
H-RST
V-RST
NTSC/PAL
PAL-RST
1/5 N
1/6 P
1/114 N
1/141 P
H SHIFT REGISTER
HR
LATCH
3.6M-N
4.4M-P
COMPOSITE DECODER
VR
LATCH
3.6M-N
4.4M-P
2fH
1/525 N
1/625 P
fV
V SHIFT REGISTER
VDD
VDD
HD
BF
VS
C-SY
EXTC-SY
INT/EXT
1
2
3
4
5
6
7
14
13
12
11
10
9
8

Suppl


A
B
C613
C611
TV TUNER UNIT
AUDIO IN
VIDEO IN
TR612
P601
TO OPERATION PCB
TR609
D606
D605
R615
R616
RF CONVERTER
TO MO PCB
DEMODULATOR
BW
AUTO
SW1
TO MO PCB
P755
IC1
EHM-M96ABU83K
VIDEO IN
AUDIO IN
VIDEO OUT
AUDIO OUT
TR701
R701
VR701
TR702
J1-1
TUNER VIDEO OUT
J1-2
VIDEO IN
J2-1
TUNER AUDIO OUT
J2-2
AUDIO IN
J3
VIDEO OUT
J4
AUDIO OUT
B
= NPN TRANSISTOR
B
= PNP TRANSISTOR

ADJUSTMENT VOLUME's

VR.NO.	LOCATION	ADJUSTMENT ITEM
VR1	D3	Y REC CURRENT
VR2	D3	CHROMA REC CURRENT
VR201	E2	PB SWITCHING POINT
VR202	E2	TRACKING PRESET
VR401	G4	VERTICAL STABILITY
VR501	D3	PB AUDIO LEVEL
VR502	E2, 3	AUDIO BIAS CURRENT
VR701	A6	At 5 VOLT

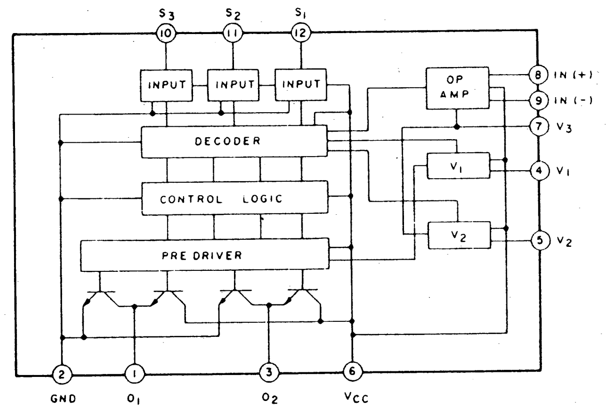
LOCATION OF COMPONENT

IC's	CONNECTOR's
IC1.......B4	P301.....H6
IC2.......E4	P302......H5
IC201.....F1	P303......H4
IC202.....F2	P305......G5
IC203.....G2	P306......G5
IC204.....G1	P307......G4
IC205.....G,H1	P308......F5,6
IC206.....H1	P309......F4
IC207.....H3	P310......F4
IC401.....H5	P401......H1
IC402.....H4	P402......F,G3
IC403.....G5	P403......F,G2
IC404.....H6	P404......F1
IC405.....G6	P501......E3
IC501.....D2	P502......E2
IC502.....E2	P601. ....B,C2
IC601.....B2	P701......E3
IC701.....D6	P702......C.D3
	P755......B4,5
	P756......B3
	P801......D6

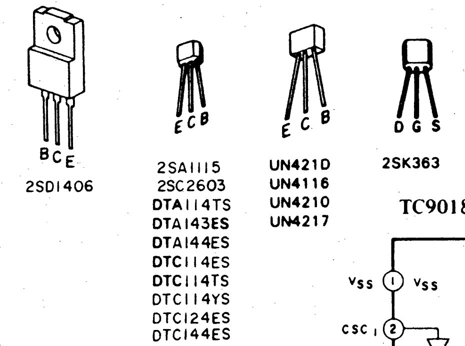
TRANSISTOR's

TR1.......C5,6	TR210.....G,H2
TR2.......C5	TR211.....G,H3
TR3.......C5	TR212.....H3
TR4.......C5	TR213.....H3
TR5.......B5	TR214.....H3
TR6.......B5,6	TR215.....H3
TR7.......C5,6	TR216.....G,H3
TR8.......B5	TR401.....H4
TR9.......B5	TR402.....F5
TR10......B5	TR403.....F,G4
TR11......D4	TR404.....G4
TR12......E4,5	TR405.....G4
TR13......E4	TR406.....F4
TR14......D4	TR407.....F4
TR15......D5,6	TR408.....F4
TR16 .....D5	TR410.....G6
TR17......C5	TR411.....G6
TR18......C4	TR413.....G4
TR19......C4	TR414.....F5
TR20......C3	TR416.....H4
TR21......D3	TR417.....H4
TR22......D3	TR418.....E5,6
TR23......D4	TR501.....E2
TR24......C,D5	TR502.....E3
TR25......B,C5	TR503.....E1,2
TR27......E5	TR601.....E1
TR28......E6	TR602.....E1
TR31......B,C4	TR603.....C2
TR32......E5	TR604.....C1
TR38......E4	TR608.....B2
TR201.. ..FG3	TR609.....B2
TR202.....F2	TR611.....B2
TR203.....F1	TR614.....B2
TR204.....H3	TR701.....B6
TR205.....H3	TR702.....B6
TR206.....H3	TR703.....D,E6
TR207.....G1	
TR208.....H2	

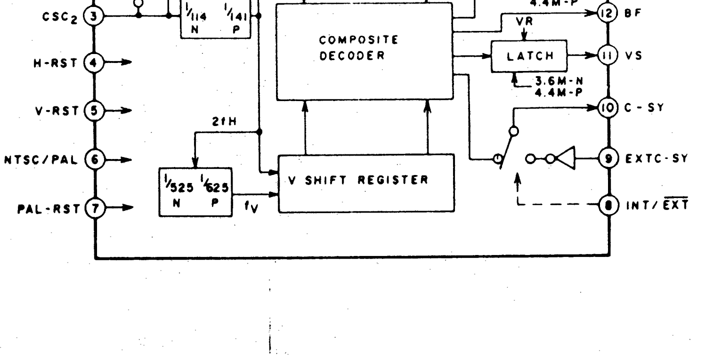
M54548L (CAPSTAN DRIVE IC)

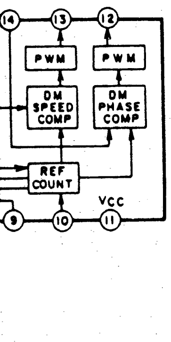

S3
S2
S1
10
11
12
INPUT
INPUT
INPUT
OP AMP
8 IN (+)
9 IN (−)
7 V3
DECODER
V1
4 V1
CONTROL LOGIC
V2
5 V2
PRE DRIVER
2
1
3
6
GND
O1
O2
Vcc

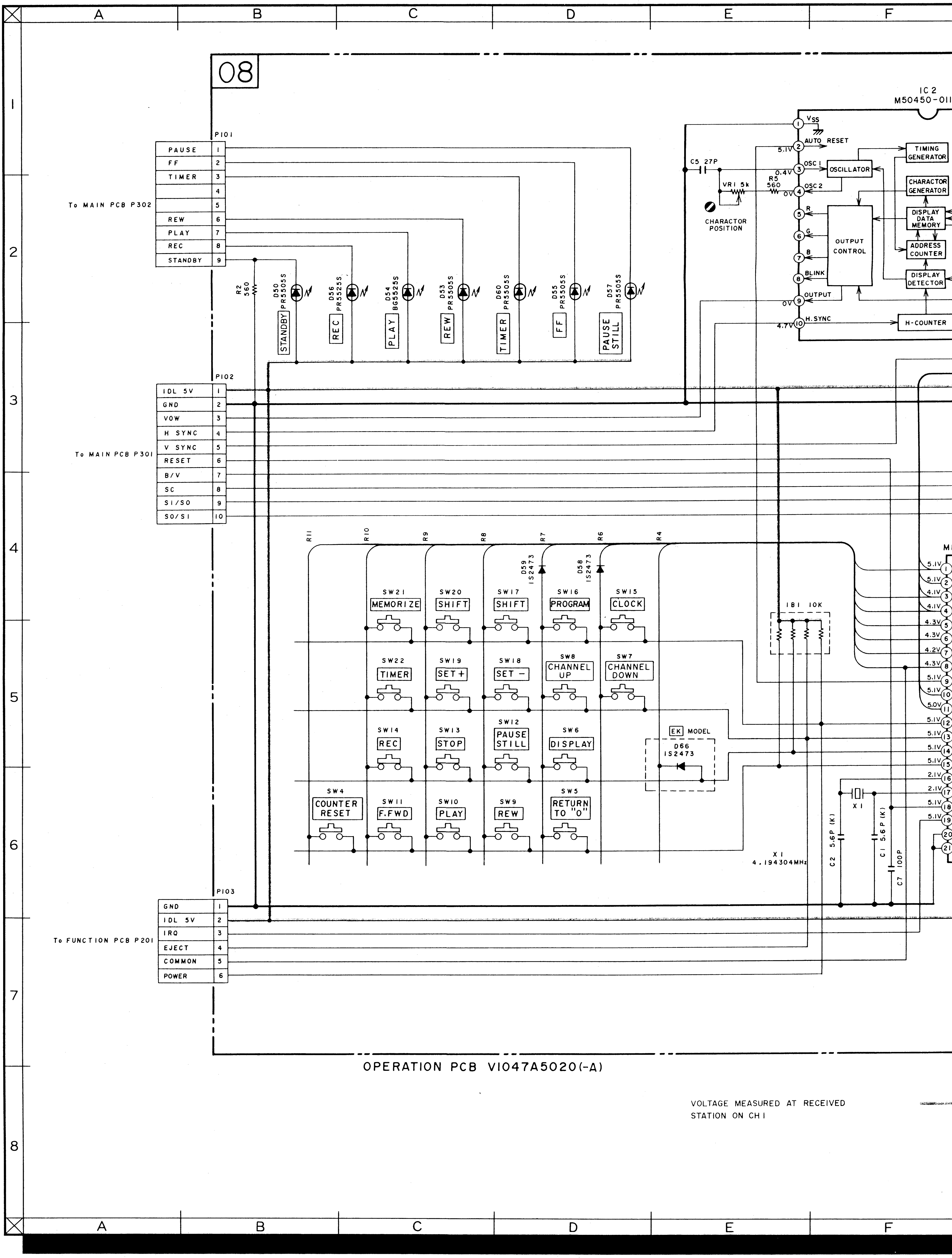
INPUT			OUTPUT		Vcc SELECT	MODE
S_1	S_2	S_3	$\bar{O}_1$	$\bar{O}_2$		
L	L	L	"OFF" state	"OFF" state	–	STOP
L	L	H	H	L	Vs	PLAY (+)
L	H	L	L	H	Vs	PLAY (–)
L	H	H	H	L	V_2	FF (2)
H	L	L	L	H	V_2	REW (2)
H	L	H	H	L	V_1	FF (1)
H	H	L	L	H	V_1	REW (1)
H	H	H	L	L	Vs	BRAKE


BCE
2SD1406
ECB
2SA1115
2SC2603
DTA114TS
DTA143ES
DTA144ES
DTC114ES
DTC114TS
DTC114YS
DTC124ES
DTC144ES
ECB
UN4210
UN4116
UN4210
UN4217
DGS
2SK363

TC9018P (TV SYNC GENERATOR)

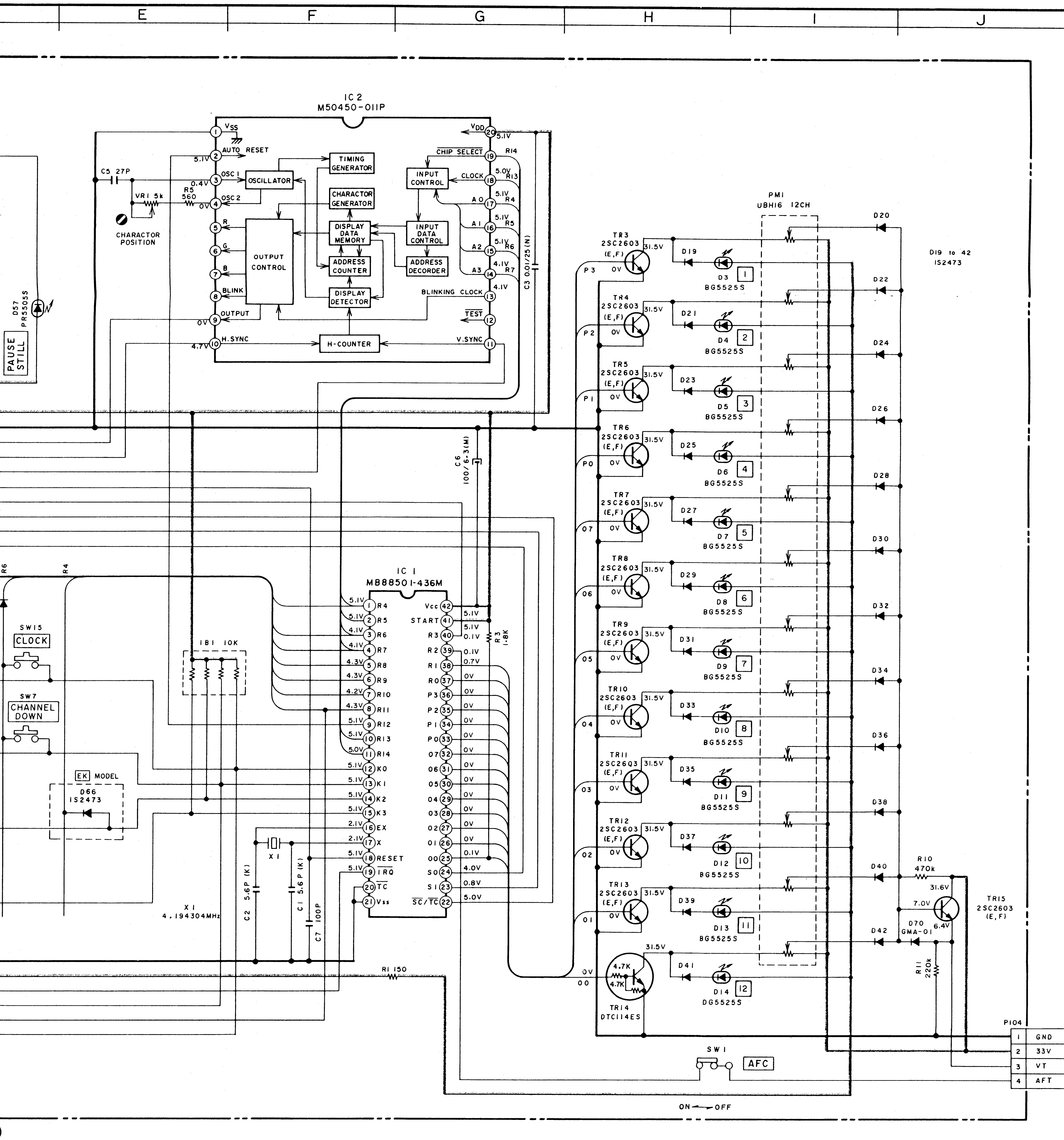

VSS 1 VSS
CSC1 2
CSC2 3
H-RST 4
V-RST 5
NTSC/PAL 6
PAL-RST 7
1/5 1/6
N P
1/114 1/141
N P
H SHIFT REGISTER
COMPOSITE DECODER
V SHIFT REGISTER
2fH
1/525 1/625
N P
fV
HR
LATCH
3.6M-N
4.4M-P
VR
LATCH
3.6M-N
4.4M-P
VDD 14 VDD
13 HD
12 BF
11 VS
10 C-SY
9 EXTC-SY
8 INT/EXT


14
13
12
PWM
PWM
DM SPEED COMP
DM PHASE COMP
REF COUNT
VCC
9
10
11


08
P101
PAUSE
FF
TIMER
REW
PLAY
REC
STANDBY
To MAIN PCB P302
R2 560
D50 PR5505S
D56 PR5525S
D54 BG5525S
D53 PR5505S
D60 PR5505S
D55 PR5505S
D57 PR5505S
STANDBY
REC
PLAY
REW
TIMER
FF
PAUSE STILL
P102
IDL 5V
GND
VOW
H SYNC
V SYNC
RESET
B/V
SC
SI/SO
SO/SI
To MAIN PCB P301
IC2
M50450-011
VSS
AUTO RESET
OSC 1
OSC 2
OSCILLATOR
TIMING GENERATOR
CHARACTOR GENERATOR
DISPLAY DATA MEMORY
ADDRESS COUNTER
DISPLAY DETECTOR
OUTPUT CONTROL
H-COUNTER
R
G
B
BLINK
OUTPUT
H.SYNC
5.1V
0.4V
0V
4.7V
C5 27P
VR1 5k
R5 560
CHARACTOR POSITION
R11
R10
R9
R8
R7
R6
R4
D59 1S2473
D58 1S2473
SW21 MEMORIZE
SW20 SHIFT
SW17 SHIFT
SW16 PROGRAM
SW15 CLOCK
SW22 TIMER
SW19 SET+
SW18 SET −
SW8 CHANNEL UP
SW7 CHANNEL DOWN
SW14 REC
SW13 STOP
SW12 PAUSE STILL
SW6 DISPLAY
SW4 COUNTER RESET
SW11 F.FWD
SW10 PLAY
SW9 REW
SW5 RETURN TO "0"
EK MODEL
D66 1S2473
IB1 10K
X1
X1 4.194304MHz
C2 5.6P (K)
C1 5.6P (K)
C7 100P
5.1V
4.1V
4.3V
4.2V
5.0V
2.1V
P103
GND
IDL 5V
IRQ
EJECT
COMMON
POWER
To FUNCTION PCB P201
A
B
C
D
E
F
1
2
3
4
5
6
7
8

OPERATION PCB V1047A5020(-A)

VOLTAGE MEASURED AT RECEIVED STATION ON CH I


E
F
G
H
I
J
IC 2
M50450-011P
VSS
AUTO RESET
OSC 1
OSC 2
R
G
B
BLINK
OUTPUT
H.SYNC
VDD
CHIP SELECT
CLOCK
A0
A1
A2
A3
BLINKING CLOCK
TEST
V.SYNC
OSCILLATOR
TIMING GENERATOR
CHARACTOR GENERATOR
DISPLAY DATA MEMORY
ADDRESS COUNTER
DISPLAY DETECTOR
OUTPUT CONTROL
INPUT CONTROL
INPUT DATA CONTROL
ADDRESS DECORDER
H-COUNTER
C5 27P
VR1 5k
R5 560
CHARACTOR POSITION
C3 0.01/25(N)
D57 PR5505S
PAUSE STILL
C6 100/6.3(M)
IC 1
MB88501-436M
R3 1.8K
181 10K
SW15 CLOCK
SW7 CHANNEL DOWN
EK MODEL
D66 1S2473
X1
X1 4.194304MHz
C2 5.6P(K)
C1 5.6P(K)
C7 100P
R1 150
R6
R4
PM1 UBH16 12CH
TR3 – TR13 2SC2603 (E,F)
P3
P2
P1
P0
07
06
05
04
03
02
01
00
D3 – D14 BG5525S
1
2
3
4
5
6
7
8
9
10
11
12
TR14 DTC114ES
4.7K
D19 to 42 1S2473
R10 470k
TR15 2SC2603 (E,F)
D70 GMA-01
R11 220k
P104
1 GND
2 33V
3 VT
4 AFT
SW1
AFC
ON ⟵ OFF

VOLTAGE MEASURED AT RECEIVED
STATION ON CH 1

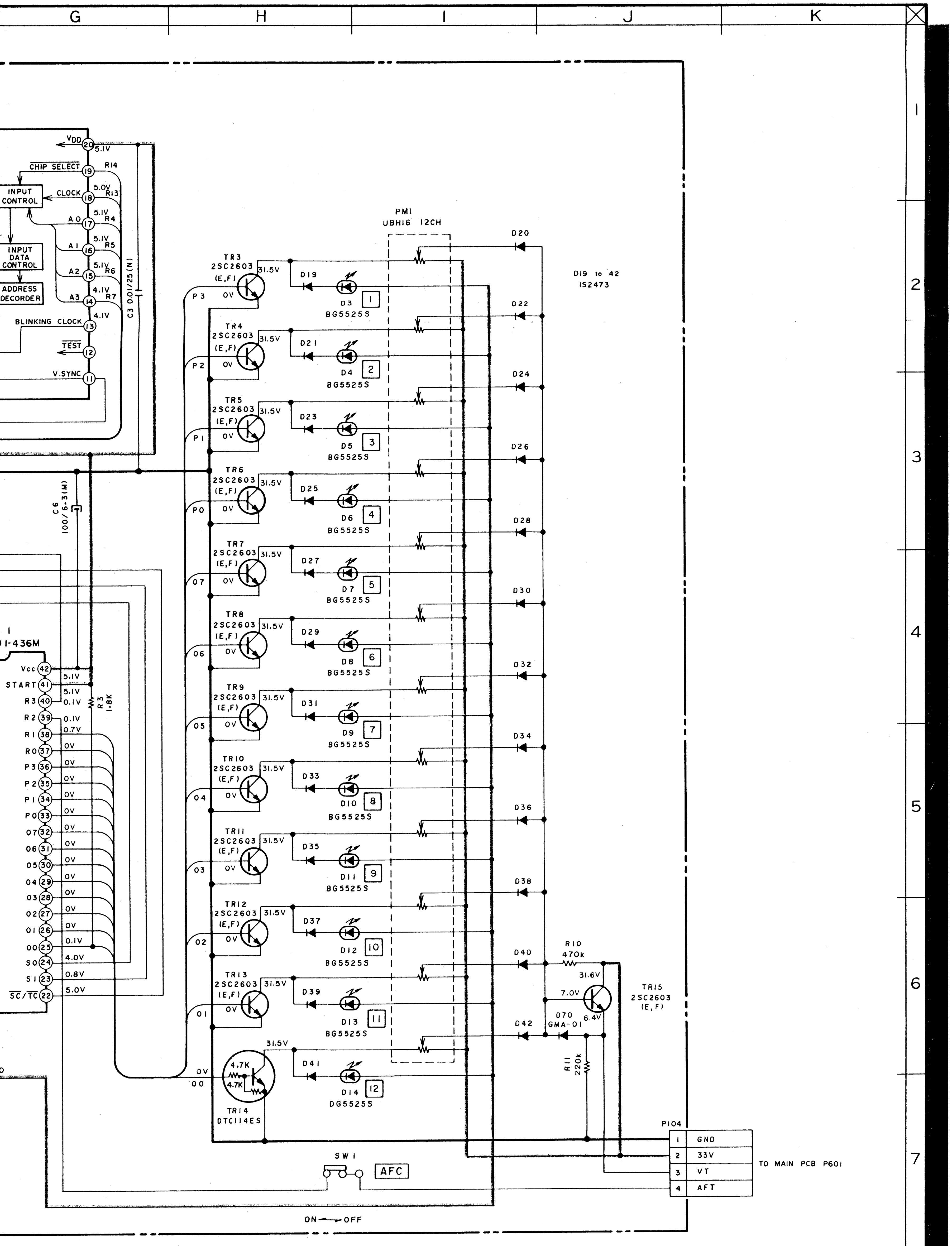
═══ =B(POWER SUPPLY) LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50WV(J)

VS-155HQ EK OPERATION SCHEMATIC

NO.5-3

E F G H I J


G
H
I
J
K
1
2
3
4
5
6
7
VDD
CHIP SELECT
INPUT CONTROL
CLOCK
A0
A1
INPUT DATA CONTROL
A2
ADDRESS DECORDER
A3
BLINKING CLOCK
TEST
V.SYNC
5.1V
R14
5.0V
R13
R4
R5
R6
4.1V
R7
C3 0.01/25(N)
C6 100/6.3(M)
1-436M
Vcc
START
R3
R2
R1
R0
P3
P2
P1
P0
07
06
05
04
03
02
01
00
S0
S1
SC/TC
0.1V
0.7V
0V
4.0V
0.8V
5.0V
R3 1.8K
PM1
UBH16 12CH
TR3 2SC2603 (E,F)
TR4 2SC2603 (E,F)
TR5 2SC2603 (E,F)
TR6 2SC2603 (E,F)
TR7 2SC2603 (E,F)
TR8 2SC2603 (E,F)
TR9 2SC2603 (E,F)
TR10 2SC2603 (E,F)
TR11 2SC2603 (E,F)
TR12 2SC2603 (E,F)
TR13 2SC2603 (E,F)
TR14 DTC114ES
4.7K
31.5V
D19
D21
D23
D25
D27
D29
D31
D33
D35
D37
D39
D41
D3 BG5525S
D4 BG5525S
D5 BG5525S
D6 BG5525S
D7 BG5525S
D8 BG5525S
D9 BG5525S
D10 BG5525S
D11 BG5525S
D12 BG5525S
D13 BG5525S
D14 DG5525S
1
2
3
4
5
6
7
8
9
10
11
12
D20
D22
D24
D26
D28
D30
D32
D34
D36
D38
D40
D42
D19 to 42 1S2473
R10 470k
31.6V
7.0V
6.4V
TR15 2SC2603 (E,F)
D70 GMA-01
R11 220k
P104
GND
33V
VT
AFT
TO MAIN PCB P601
SW1
AFC
ON → OFF

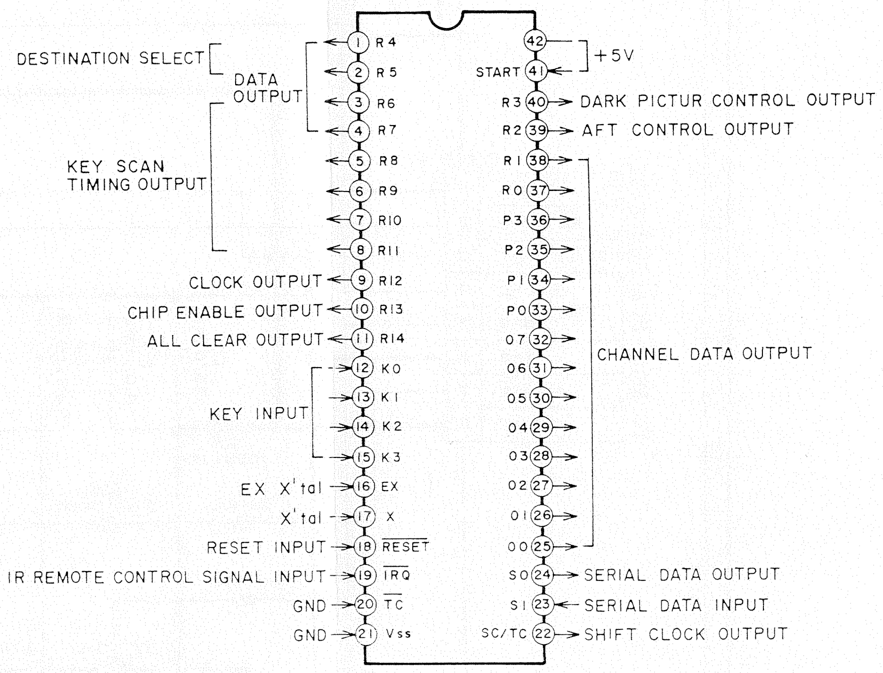
═ =B(POWER SUPPLY) LINE

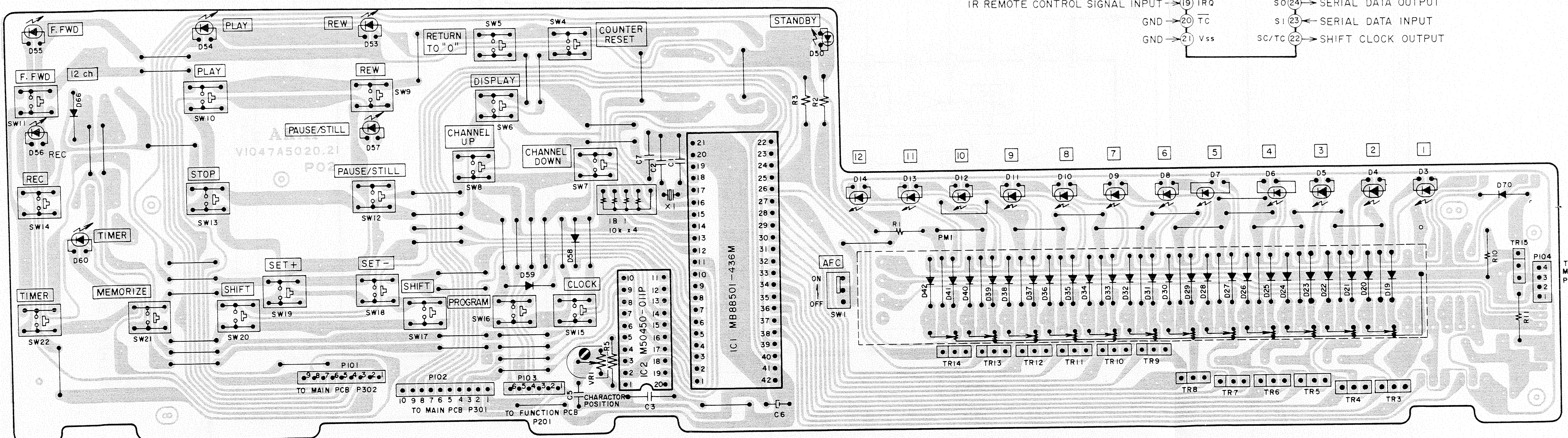
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50WV(J)

VS-155HQ EK
OPERATION
SCHEMATIC DIAGRAM

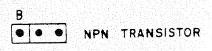
NO.5-3 860912A

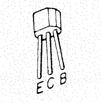
MB88501-436M (OPERATION MPU)


DESTINATION SELECT
DATA OUTPUT
KEY SCAN TIMING OUTPUT
1 R4
2 R5
3 R6
4 R7
5 R8
6 R9
7 R10
8 R11
CLOCK OUTPUT 9 R12
CHIP ENABLE OUTPUT 10 R13
ALL CLEAR OUTPUT 11 R14
KEY INPUT
12 K0
13 K1
14 K2
15 K3
EX X'tal 16 EX
X'tal 17 X
RESET INPUT 18 RESET
IR REMOTE CONTROL SIGNAL INPUT 19 IRQ
GND 20 TC
GND 21 Vss
42
+5V
START 41
R3 40 DARK PICTUR CONTROL OUTPUT
R2 39 AFT CONTROL OUTPUT
R1 38
R0 37
P3 36
P2 35
P1 34
P0 33
07 32
06 31
05 30
04 29
03 28
02 27
01 26
00 25
CHANNEL DATA OUTPUT
S0 24 SERIAL DATA OUTPUT
S1 23 SERIAL DATA INPUT
SC/TC 22 SHIFT CLOCK OUTPUT


F.FWD
D55
PLAY
D54
REW
D53
RETURN TO "0"
SW5
SW4
COUNTER RESET
STANDBY
D50
F.FWD
12 ch
D66
SW11
D56 REC
PLAY
SW10
REW
SW9
DISPLAY
SW6
PAUSE/STILL
D57
CHANNEL UP
SW8
CHANNEL DOWN
SW7
R3
R2
REC
SW14
STOP
SW13
PAUSE/STILL
SW12
C7
C2
C1
X1
IB1 10k x4
TIMER
D60
D58
D59
SET+
SET−
SHIFT
CLOCK
TIMER
SW22
MEMORIZE
SW21
SHIFT
SW20
SW19
SW18
PROGRAM
SW16
SW17
SW15
VR1
R5
IC2 M50450-011P
IC1 MB88501-436M
P101
TO MAIN PCB P302
P102
10 9 8 7 6 5 4 3 2 1
TO MAIN PCB P301
P103
TO FUNCTION PCB P201
C5
CHARACTOR POSITION
C3
C6
AFC
ON
OFF
SW1
12 11 10 9 8 7 6 5 4 3 2 1
D14 D13 D12 D11 D10 D9 D8 D7 D6 D5 D4 D3
D70
R1
PM1
D42 D41 D40 D39 D38 D37 D36 D35 D34 D33 D32 D31 D30 D29 D28 D27 D26 D25 D24 D23 D22 D21 D20 D19
TR14 TR13 TR12 TR11 TR10 TR9
TR8 TR7 TR6 TR5 TR4 TR3
TR15
R10
R11
P104
TO MAIN PCB P601
4 3 2 1
V1047A5020.21

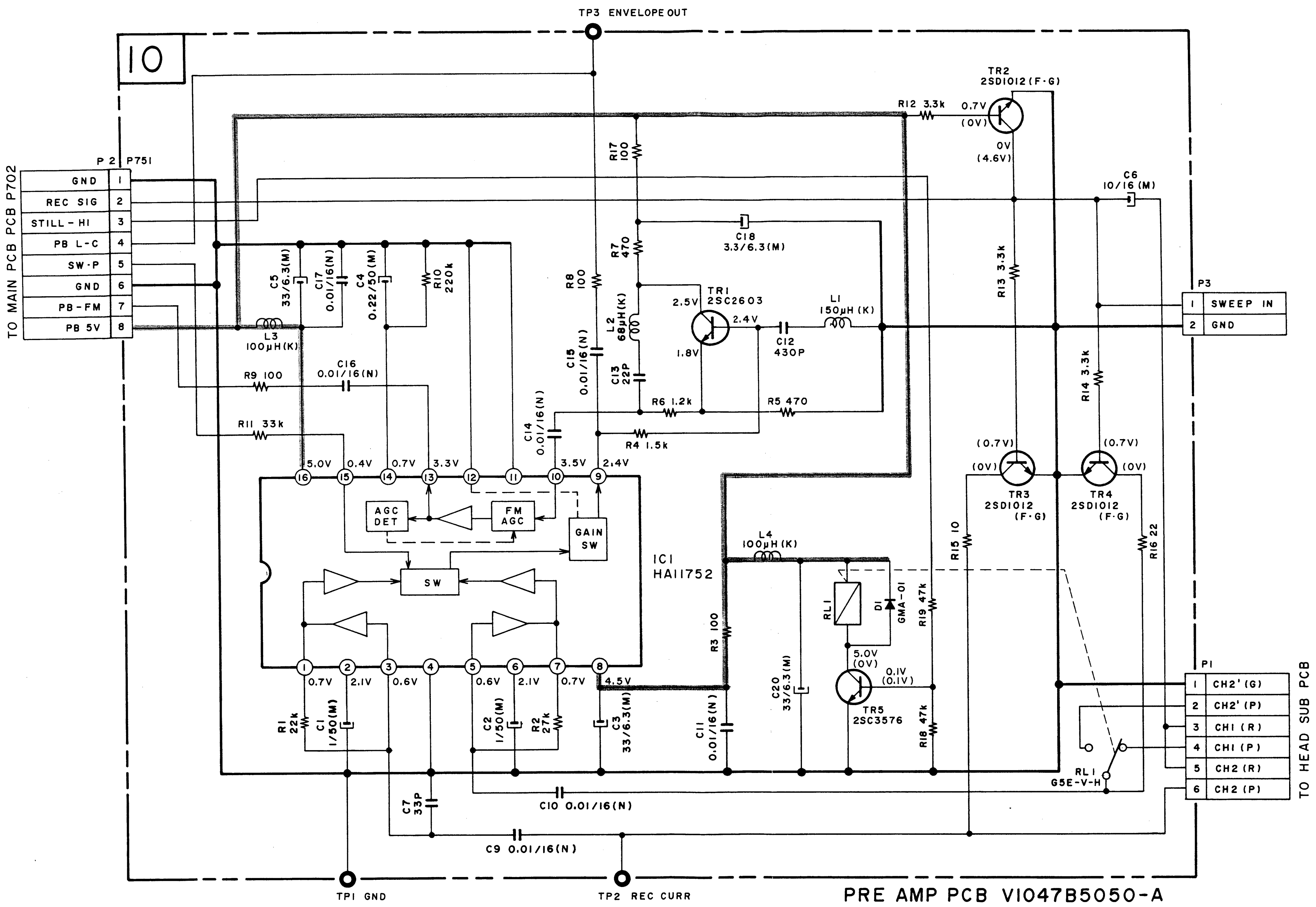
OPERATION PCB V1047A5020(−A)


B
NPN TRANSISTOR



2SC2603
DTC143ES

TR3 to 13 .... 2SC2603 (E,F)
TR14 .... DTC114ES


10
TP3 ENVELOPE OUT
TO MAIN PCB PCB P702
P 2 P751
1 GND
2 REC SIG
3 STILL-HI
4 PB L-C
5 SW·P
6 GND
7 PB-FM
8 PB 5V
C5 33/6.3(M)
C17 0.01/16(N)
C4 0.22/50(M)
R10 220k
L3 100μH(K)
C16 0.01/16(N)
R9 100
R11 33k
R8 100
C15 0.01/16(N)
C14 0.01/16(N)
R17 100
R7 470
C18 3.3/6.3(M)
L2 68μH(K)
C13 22P
TR1 2SC2603
2.5V
2.4V
1.8V
C12 430P
L1 150μH(K)
R6 1.2k
R5 470
R4 1.5k
TR2 2SD1012(F·G)
R12 3.3k
0.7V
(0V)
0V
(4.6V)
C6 10/16(M)
R13 3.3k
R14 3.3k
P3
1 SWEEP IN
2 GND
(0.7V)
(0V)
TR3 2SD1012 (F·G)
TR4 2SD1012 (F·G)
R15 10
R16 22
5.0V
0.4V
0.7V
3.3V
3.5V
2.4V
AGC DET
FM AGC
GAIN SW
SW
IC1 HA11752
0.7V
2.1V
0.6V
0.6V
2.1V
0.7V
4.5V
R1 22k
C1 1/50(M)
C2 1/50(M)
R2 27k
C3 33/6.3(M)
C7 33P
C10 0.01/16(N)
C9 0.01/16(N)
L4 100μH(K)
R3 100
C11 0.01/16(N)
C20 33/6.3(M)
RL1
D1 GMA-01
R19 47k
R18 47k
5.0V
(0V)
0.1V
(0.1V)
TR5 2SC3576
RL1 G5E-V-H
P1
1 CH2'(G)
2 CH2'(P)
3 CH1 (R)
4 CH1 (P)
5 CH2 (R)
6 CH2 (P)
TO HEAD SUB PCB
TP1 GND
TP2 REC CURR
PRE AMP PCB V1047B5050-A

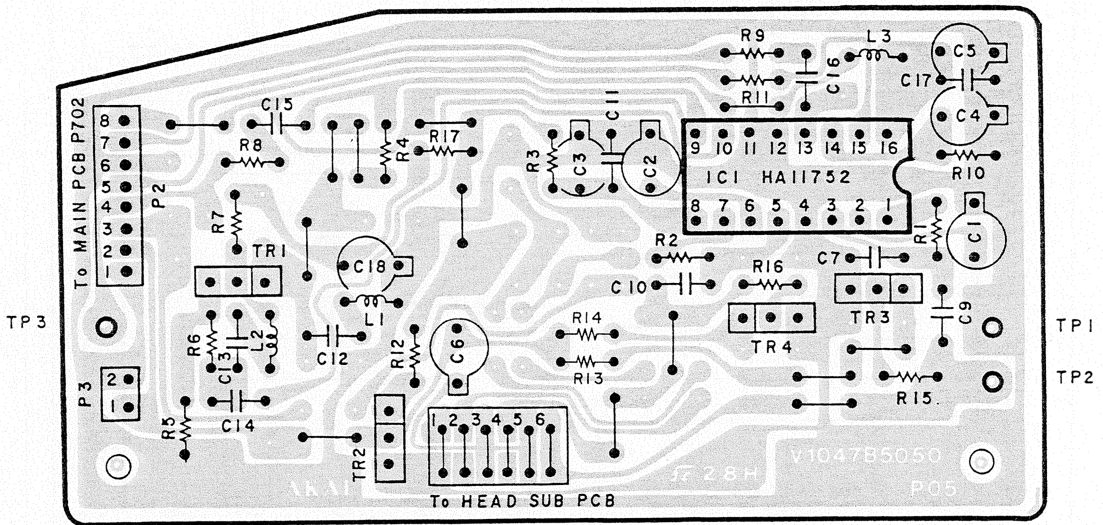
INDICATED VOLTAGES ARE AT PB MODE
INDICATED IN ( ) ARE AT REC MODE

▬ = B (POWER SUPPLY) LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μF 50WV(J)

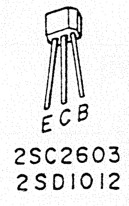
VS-155HQ EK
PRE AMP
SCHEMATIC DIAGRAM

NO.5-4 860226A (A3)



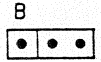
To MAIN PCB P702
P2
8
7
6
5
4
3
2
1
TP3
P3
2
1
C15
R8
R7
TR1
R6
C13
L2
C14
R5
C18
L1
C12
R12
TR2
R4
R17
R3
C3
C11
C2
C6
1 2 3 4 5 6
To HEAD SUB PCB
AKAI
R9
R11
C16
L3
C5
C17
C4
9 10 11 12 13 14 15 16
IC1 HA11752
8 7 6 5 4 3 2 1
R10
R1
C1
R2
C10
R16
C7
R14
R13
TR4
TR3
C9
R15
TP1
TP2
V104785050
P05

PRE AMP PCB V107435050(-D)

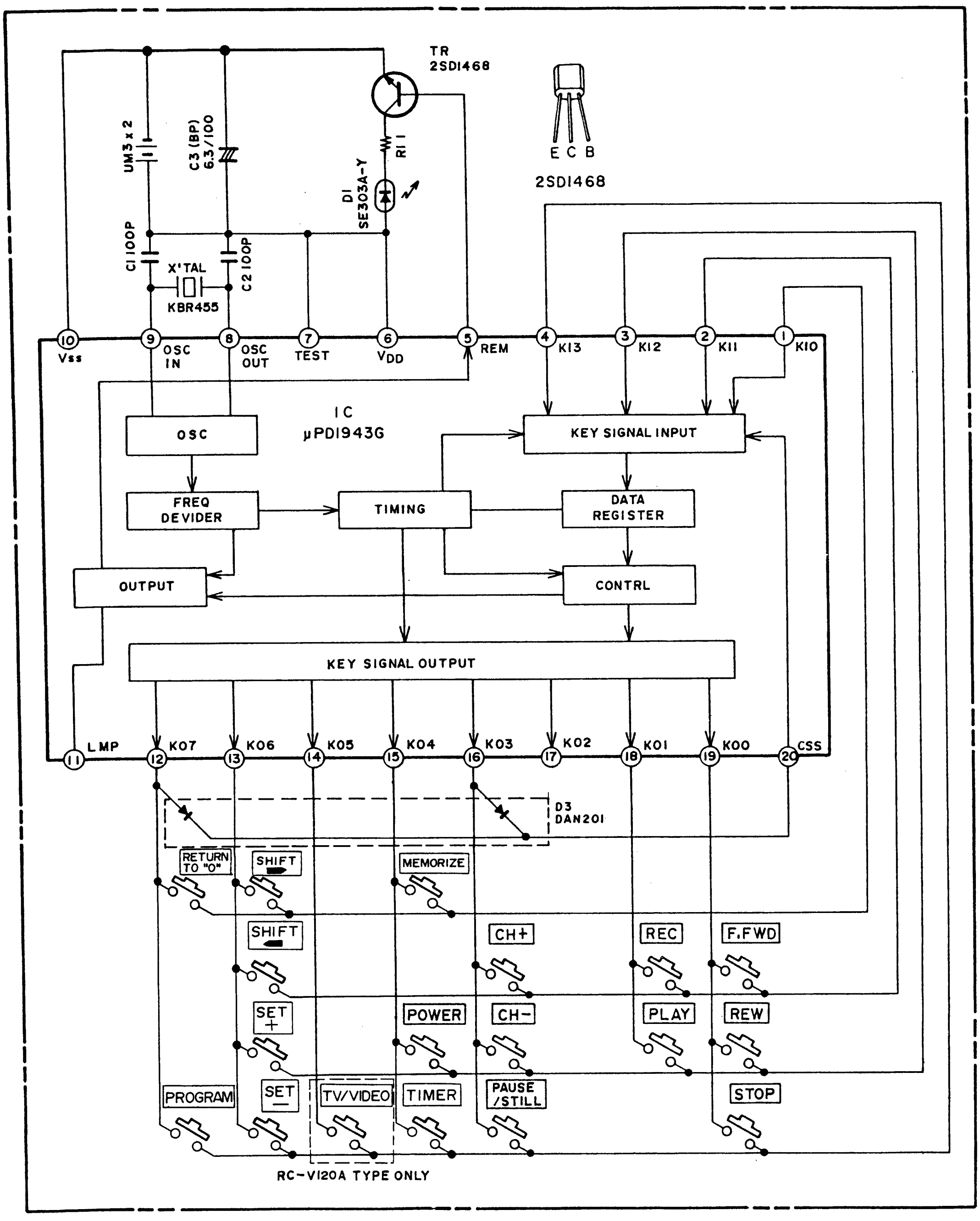


2SC2603
2SD1012

TR1----2SC2603(G)
TR2 to 4--2SD1012(F,G)



= NPN TRANSISTOR


TR
2SD1468
UM3 x 2
C3 (BP)
6.3/100
R11
D1
SE303A-Y
E C B
2SD1468
C1 100P
C2 100P
X'TAL
KBR455
10 Vss
9 OSC IN
8 OSC OUT
7 TEST
6 VDD
5 REM
4 KI3
3 KI2
2 KI1
1 KI0
IC
μPD1943G
OSC
FREQ DEVIDER
TIMING
KEY SIGNAL INPUT
DATA REGISTER
OUTPUT
CONTRL
KEY SIGNAL OUTPUT
11 LMP
12 KO7
13 KO6
14 KO5
15 KO4
16 KO3
17 KO2
18 KO1
19 KO0
20 CSS
D3
DAN201
RETURN TO "0"
SHIFT
MEMORIZE
SHIFT
CH+
REC
F.FWD
SET +
POWER
CH−
PLAY
REW
PROGRAM
SET −
TV/VIDEO
TIMER
PAUSE /STILL
STOP
RC−V120A TYPE ONLY

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50WV(J)

RC−V120A/B
REMOTE CONTROL UNIT
SCHEMATIC DIAGRAM

NO.6−6 860907A (A4)

AKAI ELECTRIC CO., LTD.
12-14, 2-Chome, Higashi-Kojiya, Ohta-Ku, Tokyo, Japan
TEL: Tokyo (742) 5111 CABLE: HIFIAKAI TOKYO TELEX: J26261
Printed No. 860925-I1-1000 Printed Date: October 17, 1986
Printed in Japan

PARTS PRICE LIST

MODEL VS-155 EG/EK/ES /EV-M/EZ

AKAI AKAI ELECTRIC CO., LTD.
12-14, 2-Chome, Higashi-Kojiya, Ohta-Ku, Tokyo, Japan
TEL: Tokyo (742) 5111 CABLE HIFIAKAI TOKYO TELEX J26261

RECOMMENDED SPARE PARTS LIST

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
1	BF-B360531	300
2	BL-B360350	60
3	BL-B360342	80
4	BM-361544-B	1,500
5	BM-B361467	400
6	BM-M3223A020A	3,000
7	BR-B360517B	85
8	BR-B360517A	80
9	BT-363353	1,200
10	BT-363945	1,200
11	BT-363949	1,200
12	BT-363946	1,200
13	BT-363950	1,200
14	BV-V1030A210A	9,000
15	BV-363232	3,000
16	BV-363231	3,000
17	BV-363234	3,000
18	BV-V1030A220A	12,000
19	ED-363351	30
20	ED-363350	20
21	ED-356424	20
22	ED-357540	100
23	ED-355607	20
24	ED-705414	240
25	ED-360409	80
26	ED-718039	60
27	ED-357754	20
28	ED-344280	20
29	ED-624903	20
30	ED-362998	20
31	ED-313846	20
32	ED-329051	20
33	ED-305706	20
34	ED-337266	20
35	ED-346609	20
36	ED-365109	20
37	EE-364670	700
38	EE-360405	800
39	EE-364472	600
40	EE-345116	5,000
42	EE-345121	5,000
43	EE-352284	5,000
44	EF-355226	40
45	EF-355398	40
46	EF-344106	43
47	EF-623103	40
48	EF-601301	40
49	EH-347743	13
50	EH-360340	330
51	EH-360341	550
52	EH-360339	65
53	EH-364045	200
54	EH-360337	200
55	EI-353421	150
56	EI-337530	100
57	EI-360561	250
58	EI-360563	300
59	EI-360334	2,500
60	EI-356288	100
61	EI-360648	180
62	EI-360333	3,000
63	EI-352714	300
64	EI-356238	130
65	EI-347116	100
66	EI-356370	150
67	EI-364135	1,000
68	EI-366681	1,000
69	EI-360560	700
70	EI-360565	100
71	EI-360404	800
72	EI-360564	300
73	EI-360396	100
74	EI-363347	400
75	EI-358506	130
76	EI-749983	350
77	EI-347991	45
78	EI-749984	100
79	EI-356371	150
80	EI-364562	150
81	EL-363355	60
82	EO-360647	80
83	EO-356372	80
84	EQ-364207	250
85	ER-348272	10
86	ER-200595	10
87	ER-362257	40
88	ER-364508	40
89	ER-365157	40
90	ER-353878	90
91	ES-354430	80
92	ES-360433	50
93	ES-361479	50
94	ES-353622	150
95	ES-360408	60
96	ES-349474	50
97	ET-360646	40
98	ET-349882	40
99	ET-356224	40
100	ET-322598	50
101	ET-363359	50
102	ET-361463	100
103	ET-363953	40
104	ET-354415	40
105	ET-353897	40
106	ET-360399	40
107	ET-354365	40
108	ET-354371	40
109	ET-364060	40
110	ET-354414	20
111	ET-356236	40
112	ET-361490	50
113	ET-360401	40
114	ET-364040	40
115	ET-360400	40
116	ET-361729	40
117	ET-308472	40
118	ET-321644	40
119	ET-308141	40
120	ET-355669	40
121	ET-364153	40
122	ET-361736	40
123	ET-347961	40
124	ET-718040	80
125	EV-363511	40
126	EV-356322	20
127	EV-356575	20
128	EV-356582	20
129	EV-358862	20
130	EV-356579	20
131	EV-356577	20
132	EV-366437	30
133	EV-366436	30
134	EV-360410	60
135	EV-360569	50
136	EX-361672	130
137	EZ-362247	10
138	HE-361456	300
139	HR-361454	800
140	MB-360534	30
141	MB-360533	40
142	MB-364011	100
143	MP-361543	400
144	MR-364010	20
145	MZ-361314	15
146	MZ-360640	20
147	MZ-361313	15
148	MZ-360639	20
149	MZ-360638	20
150	MZ-364677	30
151	MZ-364676	20
152	MZ-B360642	50
153	MZ-360384	15
154	MZ-360385	20
155	MZ-366960	600
156	MZ-360453	30
157	VT-363354	150
158	VT-360148	200

1. HEAD DRUM BLOCK

HEAD DRUM BLOCK

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
1-1	BV-V1030A210A	9,000
1-2	BV-V1030A220A	12,000
1-3	ZS-362261	3
1-4	ZS-354332	3
1-5	ZS-432843	2
1-TH901	EX-361672	130

MOTOR SM-230 BLOCK

1-6	BM-M3223A020A	3,000
1-7	BV-B362443	50

ASSEMBLY BLOCK

1-8	VT-361452	60
1-9	ZS-421806	1

2. CHASSIS MECHA BLOCK (1)

CHASSIS MECHA BLOCK

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
2-1	ZS-360372	20
2-2	ZG-363349	6
2-3	MS-364796	40
2-4	MS-364797	10
2-5	MS-362181	10
2-6	ZS-608095	1
2-7	BL-B360353	120
2-8	ZG-360605	3
2-9	ZW-350839	10
2-10	ZW-354859	3
2-11	MP-361543	400
2-12	ZS-477876	1
2-13	ZW-270101	1
2-14	ZG-360603	5
2-15	ZG-360604	3
2-16	BV-V1047A080A	1,000
2-17	BV-V1047A090A	1,000
2-18	VT-360148	200
2-19	ZS-321729	25
2-20	ZS-328607	2
2-21	BL-B360361	80
2-22	ZG-360602	15
2-23	BL-B360342	80
2-24	BL-B360350	60
2-25	ZG-321731	5
2-26	MZ-B362281	100
2-27	MR-364335	50
2-28	ZW-361458	3
2-29	ZS-460440	1
2-30	ZG-313258	3
2-31	BL-B360486	30
2-32	ZG-364338	5
2-33	BL-B360525	40
2-34	ZG-364339	3
2-35	BL-B360522	30
2-36	ZG-364337	15
2-37	ZS-360391	10
2-H901	HR-361454	800
2-H902	HE-361456	300
2-SW1	ES-360433	50
2-D1	ED-357540	100

3. CHASSIS MECHA BLOCK (2)

CHASSIS MECHA BLOCK

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
3-1	MZ-B360528	200
3-2	ZS-379350	1
3-3	ZW-410051	2
3-4	ZW-357164	2
3-5	MZ-364677	30
3-6	MZ-364676	20
3-7	ZW-270101	1
3-8	ML-366736	10
3-9	ZS-422076	1
3-10	BF-B360531	300
3-11	ZS-422076	1
3-12	MB-360534	30
3-13	MB-360533	40
3-14	MZ-360453	30
3-15	MR-364010	20
3-16	ZW-360479	5
3-17	ZG-360441	5
3-18	MZ-360440	10
3-19	MR-360432	10
3-20	ZW-361458	3
3-21	ZW-356657	1
3-22	MB-364011	100
3-23	MZ-360384	15
3-24	ZG-360601	8
3-25	VT-363354	150
3-26	MZ-360385	20
3-27	BR-B360517A	80
3-28	BR-B360517B	85
3-29	MZ-366960	600
3-30	ZG-360438	3
3-31	MZ-B366734	150
3-32	ZG-358276	3
3-33	ZG-350891	5
3-34	ML-B360519	40
3-35	ML-B360520	40
3-36	ZW-360541	3
3-37	ZG-358167	10
3-38	ZW-360539	10
3-39	MZ-360477	60
3-40	ML-B366735	30
3-41	ML-B366615	30
3-42	ML-B360460	40
3-43	MZ-B360425	300
3-44	MB-366733	10
3-45	ML-366738	100
3-M902	BM-361544	1,500
3-M903	BM-B361467	400
3-SW2	ES-361479	50

SENSOR REEL PC BOARD

13-PH1	ET-361463	100

4. EJECTOR BLOCK

EJECTOR BLOCK

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
4-1	BV-V1047A250A	2,300
4-2	MZ-B360642	50
4-3	MR-361310	10
4-4	MR-361311	10
4-5	MR-361312	10
4-6	SZ-360607	60
4-7	ZG-357865	5
4-8	MZ-361314	15
4-9	MZ-361313	15
4-10	ZG-360615	13
4-11	MZ-360640	20
4-12	MZ-360639	20
4-13	ZG-360614	20
4-14	MZ-360638	20
4-15	ZG-360613	10
4-16	ZG-358212	3
4-17	BL-B361308	20
4-18	ZW-357164	2
4-19	ML-361316	10
4-20	ML-360634	25
4-21	ML-360635	25
4-IN901	EL-363355	60

SENSOR (L) PC BOARD

14-TR1	ET-361490	50

SENSOR (R) PC BOARD

15-TR1	ET-361490	50

SWITCH (EJ) PC BOARD

16-SW1	ES-353622	150

ASSEMBLY BLOCK

4-22	SP-364666	50
4-23	ZG-360616	3
4-24	SE-361317	100

5. PC BOARD BLOCK

5-1A	BA-V1047C300A	30,000
5-1B	BA-V1047C300B	30,000
5-1D	BA-V1047C300D	30,000
5-1E	BA-V1047C300E	30,000
5-1F	BA-V1047C300F	30,000
5-2A	BA-V1047C330A	6,000
5-2B	BA-V1047C330B	6,000
5-2C	BA-V1047C330C	6,000
5-2D	BA-V1047C330D	6,000
5-3	BA-V1047A400D	1,000

6. MAIN PC BOARD

MAIN PC BOARD

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
6-IC1	EI-360333	3,000
6-IC2	EI-360334	2,500
6-IC201	EI-360565	100
6-IC202	EI-360561	250
6-IC203	EI-360560	700
6-IC204	EI-360565	100
6-IC205	EI-360563	300
6-IC206	EI-360564	300
6-IC207	EI-356288	100
6-IC401	EI-366681	1,000
6-IC402	EI-353421	150
6-IC403	EI-356238	130
6-IC404	EI-360396	100
6-IC405	EI-363347	400
6-IC501	EI-360648	180
6-IC502	EI-358506	130
6-IC601	EI-337530	100
6-IC701	EI-347116	100
6-TR1to3	ET-308472	40
6-TR4	ET-308141	40
6-TR5,6	ET-308472	40
6-TR7,8	ET-308141	40
6-TR9	ET-308472	40
6-TR10to13	ET-308141	40
6-TR14	ET-308472	40
6-TR15to17	ET-356224	40
6-TR18to21	ET-308141	40
6-TR22	ET-308472	40
6-TR23	ET-308141	40
6-TR24	ET-354414	20
6-TR25	ET-361729	40
6-TR26	ET-353897	40
6-TR27	ET-354415	40
6-TR28	ET-354414	20
6-TR29,30	ET-353897	40
6-TR31	ET-308141	40
6-TR32	ET-361729	40
6-TR38	ET-354414	20
6-TR201	ET-308141	40
6-TR202	ET-356224	40
6-TR203	ET-354365	40
6-TR204	ET-322598	50
6-TR205	ET-308141	40
6-TR206	ET-308472	40
6-TR207,208	ET-308141	40
6-TR210	ET-354414	20
6-TR211	ET-360399	40
6-TR212,213	ET-308472	40
6-TR214,215	ET-353897	40
6-TR216	ET-308141	40
6-TR401	ET-354371	40
6-TR402	ET-355669	40
6-TR403	ET-308472	40
6-TR404,405	ET-360400	40
6-TR406,407	ET-363953	40
6-TR408	ET-354371	40
6-TR410	ET-360401	40
6-TR411	40	
6-TR413	ET-364040	40
6-TR414	ET-308472	40
6-TR416to418	ET-308472	40
6-TR501	ET-308141	40
6-TR502	ET-354414	20
6-TR503	ET-360646	40
6-TR601,602	ET-308141	40
6-TR603	ET-356224	40
6-TR604	ET-321644	40
6-TR605to607	ET-308472	40
6-TR608,609	ET-349882	40
6-TR611	ET-308141	40
6-TR612	ET-356236	40
6-TR613	ET-356224	40
6-TR701,702	ET-363359	50
6-TR703	ET-356224	40
6-D1	ED-344280	20
6-D2	ED-624903	20
6-D3	ED-344280	20
6-D4,5	ED-344280	20
6-D201	ED-313846	20
6-D202	ED-362998	20
6-D203to205	ED-344280	20
6-D210to212	ED-344280	20
6-D402to405	ED-344280	20
6-D406	ED-357754	20
6-D407,408	ED-344280	20
6-D501	ED-346609	20
6-D601,602	ED-344280	20
6-D603	ED-337266	20
6-D604	ED-344280	20
6-D605,606	ED-344280	20
6-D608	ED-337266	20
6-D609,610	ED-344280	20
6-D701	ED-365109	20
6-D702	ED-305706	20
6-D703to705	ED-344280	20
6-VR1	EV-356579	20
6-VR2	EV-356575	20
6-VR201	EV-366436	30
6-VR202	EV-356582	20
6-VR203	EV-358862	20
6-VR401	EV-363511	40
6-VR501	EV-356577	20
6-VR502	EV-356582	20
6-VR701	EV-366437	30
6-DL1	EH-360340	330
6-DL2	EH-360341	550
6-FL1	EH-360339	65
6-FL2	EH-360337	200
6-FL3	EH-364045	200
6-FL501	EO-360647	80
6-L1	EO-330252	20
6-L2	EO-351865	20
6-L3	EO-356599	15
6-L4,5	EO-357507	15
6-L6	EO-330252	20
6-L7,8	EO-360555	15
6-L9,10	EO-351868	20
6-L11,12	EO-354600	18
6-L13,14	EO-330252	20
6-L15	EO-353900	15
6-L16	EO-351868	20
6-L17	EO-330252	20
6-L18	EO-345889	20
6-L19	EO-360554	15
6-L20	EO-353901	15
6-L21	EO-356599	15
6-L22	EO-330252	20
6-L24	EO-356599	15
6-L25	EO-357508	15
6-L26,28	EO-351869	20
6-L29	EO-353901	15
6-L501	EO-420344	20
6-L502	EO-383308	22
6-L601	EO-360554	15
6-L602	EO-354600	18
6-X1	EI-364562	150
6-X401	EI-347991	45
6-SF1,201	EF-344106	43
6-FR1	ER-348272	10
6-R207	ER-340542	18
6-R231	ER-360559	15
6-R463	ER-353878	90
6-R518	ER-337336	18
6-C2	EC-307793	21
6-C236	EC-200948	21
6-C522	EC-337966	13
6-C610	EC-358805	30
6-1A	EJ-363366	300
6-1B	EJ-363367	300
6-1C	EJ-363369	300
6-1D	EJ-363368	300
6-2	ZS-353965	3
6-3A	BV-363231	3,000
6-3B	BV-363232	3,000
6-3D	BV-363234	3,000
6-4	ZS-363459	3
6-5A	BV-V1047A900A	6,000
6-5B	BV-V1047A900B	6,000
6-5D	BV-V1047A900E	6,000
6-5E	BV-V1047A900F	6,000
6-6	EZ-200473	10

SUB(3) PC BOARD (EV-M only)

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
6-TR419	ET-363359	50
6-TR420	ET-308141	40
6-D409	ED-329051	20

7. OPERATION PC BOARD

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
7-IC1	EI-364135	1,000
7-IC2	EI-360404	800
7-TR1to13	ET-308141	40
7-TR14	ET-364060	40
7-TR15	ET-308141	40
7-D1,2	ED-356424	20
7-D3to14	ED-356424	20
7-D15to18	ED-624903	20
7-D19to42	ED-624903	20
7-D50	ED-355607	20
7-D52	ED-355607	20
7-D53	ED-355607	20
7-D54	ED-356424	20
7-D55to57	ED-355607	20
7-D58,59	ED-624903	20
7-D60	ED-355607	20
7-D/5	ED-624903	30
7-D66	ED-624903	20
7-D70	ED-624903	20
7-SW1	ES-360408	60
7-SW3	ES-349474	50
7-SW4to22	ES-349474	50
7-VR1	EV-356322	20
7-X1	EI-356371	150
7-IB1	EH-347743	13
7-PM1A	EE-360405	800
7-PM1B	EE-364472	600
7-PM1C	EE-364670	700

8. FUNCTION PC BOARD

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
8-IC1	EI-356370	150
8-D1	ED-360409	80
8-D2	ED-344280	20
8-SW1	ES-349474	50
8-VR1	EV-360410	60
8-VR2	EV-360569	50
8-VR3	EV-363358	50
8-FL1	EO-356372	80

9. PRE AMP PC BOARD

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
9-IC1	EI-352714	300
9-TR1	ET-308141	40
9-TR2to4	ET-347961	40
9-TR5	ET-361736	40
9-D1	ED-344280	20
9-L1	EO-357508	15
9-L2	EO-353902	15
9-L3,4	EO-330252	20
9-RL1	EQ-364207	250

10. VIF BLOCK

TUNER UNIT

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
10-1A	EE-345115	5,000
10-1B	EE-345116	5,000
10-1D	EE-352284	5,000
10-1E	EE-345121	5,000

11. POWER SUPPLY PC BOARD

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
11-TR1	ET-364153	40
11-D1,2	ED-363350	20
11-D3to6	ED-363351	30
11-D7to10	ED-363350	20
11-FR1	ER-364508	40
11-FR2	ER-362257	40
11-FR3	ER-365157	40
11-FR5	ER-200595	10
11-C2	EC-363490	55
11-C3,4	EC-363491	80
11-C5	EC-361942	30
11-T901A	BT-363353	1,200
11-T901B	BT-363945	1,200
11-T901D	BT-363946	1,200
11-T901E	BT-363950	1,200
11-T901F	BT-363949	1,200
11-F1A	EF-623103	40
11-F2A	EF-601301	40
11-F1B	EF-355226	40
11-F2B	EF-355398	40

12. EVM PC BOARD

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
12-SW901	ES-354430	80
12-SF1	EZ-362247	10

13. SENSOR REEL PC BOARD

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
13-PH1	ET-361463	100

14. SENSOR (L) PC BOARD

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
14-TR1	ET-361490	50

15. SENSOR (R) PC BOARD

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
15-TR1	ET-361490	50

16. SWITCH (EJ) PC BOARD

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
16-SW1	ES-353622	150

17. ASSEMBLY BLOCK

ASSEMBLY BLOCK

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
17-1	ZS-357936	3
17-2	ZS-363912	3
17-3A	EW-364043	230
17-3B	EW-364044	160
17-3C	EW-364428	600
17-4	EZ-692908	14
17-5	SA-353927B	10
17-6	ZS-357946	3

POWER SUPPLY PC BOARD

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
11-T901A	BT-363353	1,200
11-T901B	BT-363945	1,200
11-T901D	BT-363946	1,200
11-T901E	BT-363950	1,200
11-T901F	BT-363949	1,200

18. FINAL ASSEMBLY BLOCK

PANEL FRONT BLOCK

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
18-1A	BD-V1047C130A	3,500
18-1B	BD-V1047C130B	3,500
18-1D	BD-V1047C130F	3,500
18-1E	BD-V1047C130G	3,500
18-1F	BD-V1047C130H	3,500
18-1A-B	BD-V1047D130A	3,500
18-1B-B	BD-V1047D130B	3,500
18-1D-B	BD-V1047D130F	3,500
18-1E-B	BD-V1047D130G	3,500
18-1F-B	BD-V1047D130H	3,500
18-2	SP-361332B	50
18-2-B	SP-361332A	50
18-3	SK-361297	15
18-4A	SP-361338Q	250
18-4B	SP-361338R	250
18-4D	SP-361338Z	250
18-4E	SP-361338X	250
18-4F	SP-361338T	250
18-5	SK-B361325A	50
18-5-B	SK-B361325B	50
18-6	SK-B361327A	50
18-6-B	SK-B361327B	50
18-7	SK-B361328A	50
18-7-B	SK-B361328B	50
18-8	SK-B361329A	50
18-8-B	SK-B361329B	50
18-9	SK-B361330A	60
18-9-B	SK-B361330B	60
18-10	SK-361331A	40
18-10-B	SK-361331B	40
18-11	AV-361336	10

ASSEMBLY BLOCK

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
18-12	SK-361334	15
18-13	BC-361486A	1,000
18-13-B	BC-341486B	1,000
18-14	ZS-357943	3
18-14-B	ZS-358696	3
18-15x	EW-348414	250

19. REMOTE CONTROL UNIT RC-V155

REF. NO.	PART NO.	UNIT PRICE YEN(¥)
19-1A	AV-363357	1,200
19-1B	AV-363496	1,200
19-1A-B	AV-363494	1,200
19-1B-B	AV-363498	1,200
19-IC1	EI-749983	350
19-TR1	ET-718040	80
19-D2	ED-705414	240
19-D3	ED-718039	60
19-X1	EI-749984	100
19-2	SC-718041	60
19-2-B	SC-718043	60

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